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The Prospects for Economic Recovery

A Report to the Senate and House Committees on the Budget —Part I

As Required by Public Law 93–344

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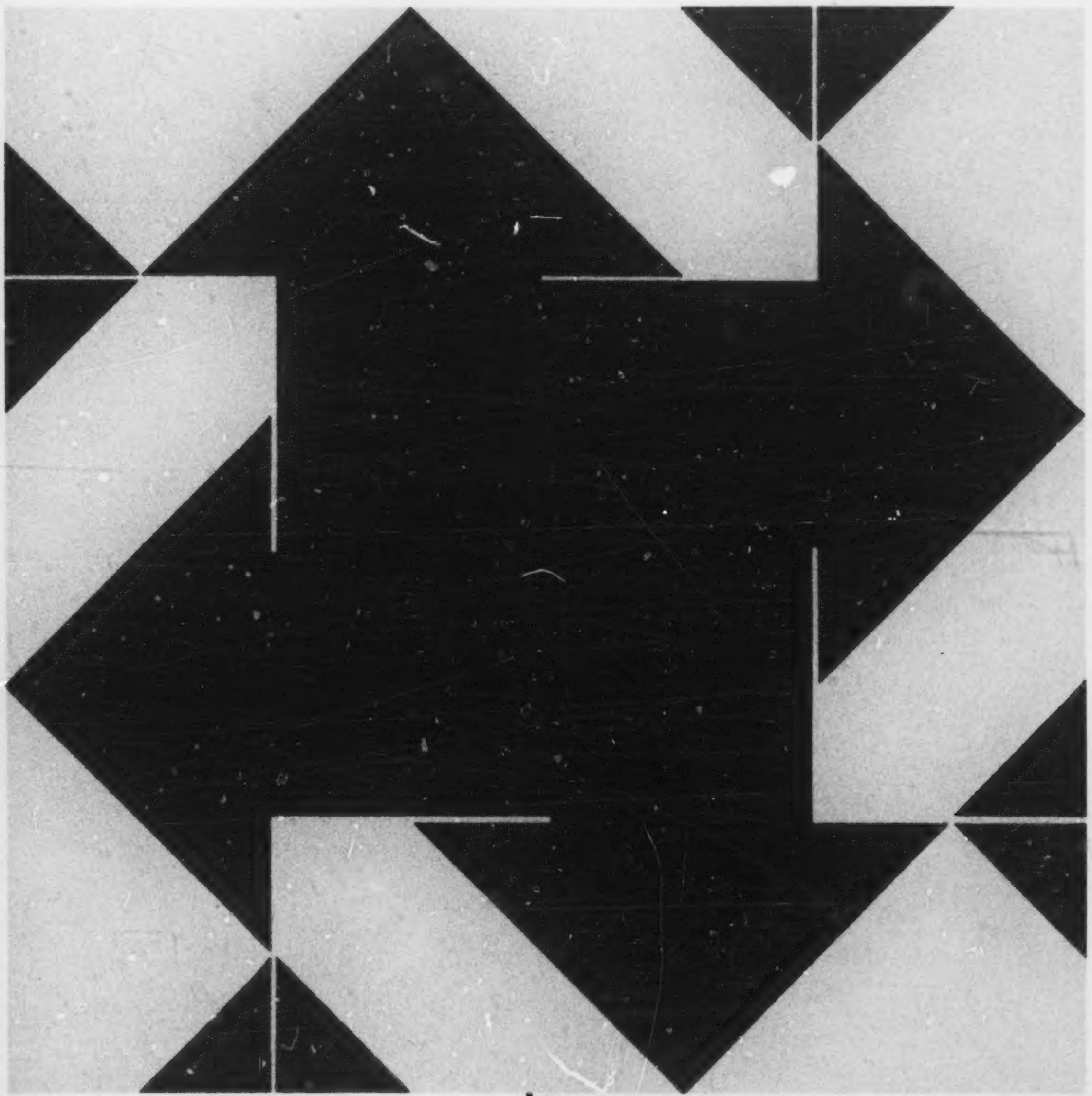

CONGRESS OF THE UNITED STATES
CONGRESSIONAL BUDGET OFFICE

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THE PROSPECTS FOR ECONOMIC RECOVERY

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PREFACE

The Congressional Budget Office is required by section 202(f) of the Congressional Budget Act of 1974 (Public Law 93-344) to submit an annual report on budgetary options to the House and Senate Committees on the Budget. This year's report is in three parts. This volume, Part I, examines the state of the economy and the outlook in an environment of monetary restraint and fiscal stimulus. Part II, Baseline Budget Projections for Fiscal Years 1983-1987, provides a baseline for the consideration of multiyear budget options and estimates the sensitivity of budget estimates to economic assumptions. Part III, Reducing the Federal Deficit: Strategies and Options, presents for Congressional consideration a number of broad strategies to reduce projected budget deficits and various specific options for cutting outlays and increasing revenues. In accordance with CBO's mandate to provide objective and impartial analysis, these reports contain no recommendations.

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February 1982

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SUMMARY

In the summer of 1981, the U.S. economy entered its second recession in as many years. The downturn was precipitated by a rise in interest rates to levels that exceeded the record rates recorded a year earlier. By the end of 1981, the economy was operating well below capacity and the unemployment rate had risen to near record levels for the postwar period. The volatile, but overall weak growth observed during 1981 was comparable to the experience of the last several years. In fact, the economy has been in a period of weak growth and high inflation since 1978. The most striking illustration of the economic malaise of recent years is the fact that productivity--the source of improved living standards--was barely higher in 1981 than the level attained four years earlier.

Not all economic news was bad in 1981. Inflation remained high by historical standards but it declined substantially from the peak rates of the previous two years. Most of the improvement in inflation was associated with softness in energy and food prices, along with the appreciation of the dollar in foreign exchange markets (which lowered the cost of imported goods), but inflationary pressures have eased in other sectors as well. Moreover, at year end, there were some signs of moderation in wage gains, offering hope for a sustained improvement in inflation.

In 1981, the Administration and the Congress enacted sweeping changes in budget policies that will sharply reduce tax burdens, boost defense spending, and slow the growth of nondefense spending. Because the tax cuts are larger than the spending cuts, federal fiscal policy will provide substantial economic stimulus during the next several years, unless further budget action is taken. At the same time the Federal Reserve, with the encouragement of the Administration, continues to pursue a stringent anti-inflationary policy.

The fiscal stimulus and tight monetary policies are intended to reverse the pattern of no growth and high inflation experienced in recent years. There is great uncertainty, however, as to the outcome of this combination of policies. If inflation remains high, the Federal Reserve's money growth targets may leave little room for growth in economic activity. Fiscal stimulus may also increase the severity of credit conditions. Without further spending cuts or tax increases, federal deficits are projected to reach still higher levels in future years even if the economic recovery is stronger than projected. As a result, there is a significant risk of an unprecedented "clash" between monetary and fiscal policy that could produce either a flat, no-growth economy or a "go-stop" economy with a spike in interest rates driving the economy into recession once again. Even in the "consensus" forecast that shows a sustained recovery, economic growth rates are projected to be substantially less than in the typical cyclical recovery.

THE BASELINE FORECAST

The Congressional Budget Office (CBO) baseline forecast for 1982 and 1983 incorporates the following policy assumptions:

- Total federal spending on a unified budget basis is assumed to be $740 billion in fiscal year 1982 and $809 billion in fiscal year 1983. 1/
- The baseline forecast incorporates the tax cuts already enacted and assumes no further changes in tax policy.
- The growth in M1 over the next two years is assumed to be near the top end of the Federal Reserve's announced target range. By this measure, the forecast assumes an easing of monetary policy relative to last year.

The forecast also incorporates the following assumptions about food and fuel prices:

- Consumer food prices increase only 6.4 percent in 1982 and 6.9 percent in 1983, less than the overall rate of inflation; and
- The world price of oil remains flat during 1982, and then increases at a rate slightly less than the overall pace of inflation.

1/ For details, see Congressional Budget Office, Baseline Budget Projections for Fiscal Years 1983-1987 (February 1982), Chapter II.

The main features of the CBO baseline economic forecast, shown in Summary Table 1, are:

- The recession is projected to end during the first half of this year. Following the July tax cut, economic growth accelerates. Economic growth is expected to be in the 1.8 to 3.8 percent range over the four quarters of 1982 and in the 2.9 to 4.9 percent range during 1983.

- The unemployment rate is expected to be at very high levels in the near term and to decline only gradually during the recovery. The average unemployment rate is expected to be in the 7.9 to 9.9 percent range for calendar year 1982 and about one percentage point lower for 1983.

- Interest rates are projected to rise during the recovery, with the average of the three-month Treasury bill rate in the 11.0 to 13.0 percent range for calendar year 1982 and in the 12.2 to 14.2 percent range in calendar year 1983.

SUMMARY TABLE 1. THE CBO BASELINE FORECAST

	Actual	Projected	
Economic Variable	1980:4 to 1981:4	1981:4 to 1982:4	1982:4 to 1983:4
Nominal GNP (percent change)	9.3	8.3 to 12.3	9.1 to 13.1
Real GNP (percent change)	0.7	1.8 to 3.8	2.9 to 4.9
GNP Implicit Price Deflator (percent change)	8.6	6.2 to 8.2	5.9 to 7.9
Unemployment Rate (calendar year average)	7.6	7.9 to 9.9	7.0 to 9.0
Three-Month Treasury Bill Rate (calendar year average)	14.0	11.0 to 13.0	12.2 to 14.2

The Decline

The recession is not expected to be quite as deep or as long as the average postwar recession. This recession was brought about by a prolonged period of stringent credit conditions that generated a near-record collapse in final demands. Production cutbacks occurred quickly as producers attempted to prevent a rise in inventories. In this way they appear to have avoided a large buildup of inventories that would require a deeper and more prolonged decline in output. As this report goes to press, economic indicators are showing cross-currents sometimes observed before a turning point; there are sketchy but inconclusive indications that the recession will end soon. Nevertheless, the first half of 1982 is not expected to show much growth. CBO's forecast does not anticipate a substantial rise in economic activity until the last half of the year, when the second round of the personal income tax cut will take effect.

It would be unwise, however, to believe that the quarterly pattern of economic growth can be projected with much confidence. Precise projections of quarterly output patterns, especially near turning points, have always been beyond the state of the art. Moreover, the accuracy of forecasting generally appears to have deteriorated recently, partly because of the volatile behavior of interest rates in recent years. The present circumstance is a case in point. Short-term interest rates fell sharply from July to December of last year, as expected during a decline in economic activity, and long-term rates followed beginning in October. But interest rates began rising unexpectedly in mid-December, despite the recession and what appeared to be improved prospects for inflation. While there seems to be no satisfactory explanation for the recent upturn in rates, it is quite clear that they could have a large bearing on the recovery. Indeed, if interest rates fail to decline significantly in the months ahead, a sustained recovery may not materialize this year.

The Recovery

The large tax cuts enacted in 1981, together with more moderate interest rates and declining inflation, bring about the recovery in economic activity in the CBO forecast. Recovery brings a pickup in household demand for durables, particularly for housing and autos, and, in time, a boost to business investment. The projected recovery in these sectors is not strong, however, despite the tax cuts. In fact, the recovery in general is expected to be less vigorous than the typical cyclical upswing.

Why the weak recovery? The reason is that the Federal Reserve's targets for money growth are so restrictive that a sustained period of rapid economic growth is unlikely during the next few years. The Federal Reserve targets seem to be consistent with nominal GNP growth in the 7 to 11 percent range during the next two years. But with inflation expected to be in the 6 to 8 percent range, there appears to be little room for rapid growth in real economic activity. It is possible, of course, that the Federal Reserve will modify its stringent policies, or that historical relationships between money and GNP growth will not hold during the recovery, or that inflation will decline much more rapidly than now seems likely--developments that might be associated with a more vigorous recovery. At the present time, however. the downside risks appear to be much greater.

The Downside Risks

As indicated earlier, the recent rise in interest rates raises uncertainty about the timing of the recovery. There is also considerable chance that the economic recovery, once underway, will not be as favorable as indicated by the CBO forecast. The major uncertainties relate to interest rates and inflation.

Higher Interest Rates. The CBO forecasts a rise in interest rates during the recovery, although rates are not projected to return to the record high levels of the previous two years. Adjusted for inflation, interest rates remain at extremely high levels in the CBO forecast. Nevertheless, some forecasters expect that interest rates will climb well above those levels and, as a result, that economic growth will be weaker than in the CBO forecast.

Interest rates may rise above the levels projected by CBO for many reasons. The Federal Reserve may pursue a more restrictive policy than assumed by CBO, as in fact happened during 1981. Moreover, interest rates may be more sensitive to projected deficits than implied by the CBO forecast. If so, the failure of the Congress and the Administration to enact budget measures involving further spending cuts or tax increases (or both) could have serious adverse effects on the projected recovery in business and residential investment. The risk of higher interest rates also will be greater if the initial stages of the recovery in economic activity are much stronger than projected by CBO. Some anticipate very rapid growth, reflecting the combined effects of a normal cyclical recovery and the fiscal stimulus. Given Federal Reserve policies, the outcome of such a rapid rebound would likely be a "go-stop" growth situation in which sharply rising interest rates again abort the recovery and drive the economy into recession. Such volatile behavior also appears to increase the possibility of financial failures.

Higher Inflation. The second major risk is the possibility that inflation will not decline as in the CBO forecast, either because moderation in wage gains proves more difficult to attain or because of unanticipated price shocks. There is also a chance that the planned buildup in defense spending will encounter serious bottlenecks that boost prices and wages in defense industries, with effects spreading to other sectors. The outcome of such inflationary pressures could be tighter credit conditions (given Federal Reserve policies) and lower real growth. It is also possible, of course, that higher inflation will result from an easing of monetary policy in order to accommodate large federal deficits.

PROSPECTS FOR LONGER-RUN GROWTH

The economic projections for the period after 1983 are subject to even more uncertainty than the short-range forecast. CBO's economic projections for the 1984 to 1987 period are not forecasts of probable economic conditions. They are based on a number of assumptions that point to moderate noncyclical growth with sustained progress in reducing inflation and unemployment.

The distribution and composition of the budget changes enacted last year provide substantial incentives for increased business investment and improvement in economic growth over the longer run.

- The reductions in business taxes significantly increase cash flow and greatly reduce the cost of capital expenditures.

- The high proportion of saving absorbed by investment in owner-occupied homes was encouraged historically by tax laws. But the decrease in business and personal income taxes is expected to reduce (or offset) the tax advantage of home ownership relative to financial investment and investment in productive plant and equipment.

- The cut in marginal income tax rates, the distribution of the tax cuts, and the special saving incentives (such as the new IRAs) encourage greater personal saving.

- The reductions in marginal tax rates may also encourage greater work effort, although this particular supply effect is not expected to be large.

- The change in the composition of federal spending with more emphasis on defense may also favor investment.

However, credit conditions are expected to restrain economic growth. The prospects for easier credit conditions, given Federal Reserve anti-inflationary policies, hinge on the degree of success in reducing inflation. Assuming no price shocks, the key to continued reductions in inflation is a deceleration in production costs--primarily unit labor costs that, in turn, depend on compensation per hour and productivity growth.

CBO's projections for the 1982-1987 period assume steady moderation in wage gains (averaging about one-half percent per year), largely as a result of high unemployment, smaller cost-of-living adjustments, and cuts in personal income taxes. Past experience suggests, however, that a very rapid decline in wage gains is unlikely. In contrast with recent experience, CBO's long-run projections also assume steady gains in productivity (averaging more than 1-1/2 percent per year), but there seems to be no basis for assuming very large gains. Overall, inflation is assumed to decline by more than one-half percentage point per year in the CBO projections through 1987; this is a somewhat more optimistic outcome than anticipated by most commercial forecasters.

Although the CBO long-run projections assume a steady reduction in inflation, credit conditions are assumed to remain tight in the 1984 to 1987 period, given the presumed Federal Reserve policy. Thus, the CBO economic projections through 1987 assume that the increased potential for rapid economic growth resulting from the tax cuts will not be fully realized until after the middle of the decade (see Summary Table 2).

BUDGET PROJECTIONS

The budget estimates associated with CBO's baseline economic projection are shown in the bottom panel of Summary Table 2.

SUMMARY TABLE 2. ECONOMIC AND BUDGET PROJECTIONS THROUGH 1987

Variables	1981	1982	1983	1984	1985	1986	1987
	Economic Assumptions, Calendar Years						
GNP (percent change)	11.3	7.5	11.9	10.4	9.7	9.4	9.1
Real GNP (percent change)	1.9	-0.1	4.4	3.6	3.5	3.5	3.5
GNP Deflator (percent change)	9.1	7.5	7.3	6.6	6.0	5.7	5.4
CPI (percent change)	10.3	7.5	6.9	6.9	6.4	6.0	5.7
Unemployment Rate (percent)	7.6	8.9	8.0	7.4	7.2	6.9	6.7
Three-Month Treasury Bill Rate (percent)	14.0	12.0	13.2	11.3	9.4	8.7	8.1
	Unified Budget Estimates, Fiscal Years						
Billions of Dollars							
Revenues	603	631	652	701	763	818	882
Outlays	660	740	809	889	971	1,052	1,130
Deficit	58	109	157	188	208	234	248
Percent of GNP							
Revenues	21.1	20.6	19.0	18.5	18.3	18.0	17.7
Outlays	23.1	24.2	23.6	23.5	23.3	23.1	22.7
Deficit	2.0	3.6	4.6	5.0	5.0	5.1	5.0
Percent Growth							
Revenues	16.0	4.6	3.3	7.5	8.8	7.2	7.8
Outlays	13.9	12.1	9.3	9.9	9.2	8.3	7.4

NOTE: The projections for the 1984-1987 period are not forecasts of probable economic conditions. Instead, they are assumptions that point to moderate noncyclical growth with sustained progress in reducing inflation and unemployment. It is uncertain whether the economic progress assumed in these projections can be attained with the prospective trend of money growth and without the enactment of further spending cuts or tax increases to reduce the deficit.

These budget estimates include the tax cuts enacted last year, but no further tax law changes are assumed. The outlay estimates are based on the policies of the second budget resolution for fiscal year 1982, except for the spending cuts not yet enacted. With these assumptions, tax revenues are expected to grow by 46.3 percent while outlays grow by 71.2 percent from 1981 to 1987, resulting in very large and growing federal deficits. It must be emphasized, however, that the budget estimates are subject to a wide margin of error. A very wide range of budget estimates can be projected based solely on alternative economic assumptions. 2/ Nevertheless, the projected rise in the deficits is a matter of serious concern because they are only partially the result of the recession. The projections show deficits rising during the recovery, if actions are not taken to further reduce spending or increase revenues. Such deficits would almost certainly crowd out private investment and, over time, adversely affect long-run growth. They might also re-ignite inflation, particularly if the Federal Reserve decides to adopt an easier policy to accommodate the deficits.

CONCLUSION

The Congress has enacted legislation to encourage investment and long-run economic growth. But the large deficits expected to be produced by present budget policies combined with tight monetary policy have greatly increased the uncertainty of the short-run economic outlook. If financial markets respond to the projected budget deficits or other conditions with substantially higher interest rates than expected by CBO, it is likely that the course of economic activity during the next few years will be less favorable than indicated by the forecast.

Many economists believe that a more coordinated monetary and fiscal policy--essentially, a different mix of policy--would be more favorable for the long-run economic outlook as well. Lower interest rates and smaller federal deficits would encourage residential and business investment over the medium term. The effect on long-run growth would be most favorable if measures adopted to reduce the deficits did not have adverse effects on capital formation.

2/ See Congressional Budget Office Baseline Budget Projections for Fiscal Years 1983-1987 (February 1982), Chapter II.

The policy options available to improve the economic outlook are not easy. One option is to take no actions to reduce projected deficits. If the extreme view of supply-side economics is correct, there will be little cost. In CBO's judgment, however, continued high deficits after the recovery is well under way risk slower long-run growth because large deficits will crowd out private capital spending. In the near term, maintenance of current policy would also risk a serious clash between monetary and fiscal policy and the attendent adverse effects on the economy. A second option is to enact further spending cuts and tax increases (or postpone tax cuts) to reduce the deficit. This would clearly reduce the risk of a monetary-fiscal policy clash and the amount of private investment "crowded out." At the same time, however, it would require sacrifices on the part of many Americans that might be particularly onerous for those who have been adversely affected by the recession. A third option would be to encourage the Federal Reserve to adopt a more expansive monetary policy. This might result in a more vigorous recovery, particularly in sectors hard hit by tight credit conditions. Faster growth would also reduce the federal deficit. But an easing of monetary policy, even moderately, might prolong the time required to achieve price stability, while a highly expansionary monetary policy would virtually guarantee accelerating inflation.

THE PROSPECTS FOR ECONOMIC RECOVERY

CHAPTER I. RECENT ECONOMIC DEVELOPMENTS

The American economy is in the midst of its eighth recession in the post-World War II period. In a number of respects, however, the current recession is unique. Unlike many earlier postwar recessions, the decline in real economic activity that began in the summer of 1981 was not preceded by several quarters of rapid, unsustainable real growth. On the contrary, the economy had essentially been moving sideways since January 1981 at a level close to the peak value it attained at the beginning of 1980, and well below the nation's productive potential. Moreover, the economy in 1981 was not buffeted by supply shocks of the sort that figured prominently in the 1973-1975 recession and in the slowdown in economic activity in 1979 and 1980. Indeed, the supply shocks that did occur as a result of the decontrol of domestic oil prices and the hike in Social Security taxes in January 1981 were more than offset by the dip in world oil prices, the slower advance of food prices, the appreciation of the dollar on the world's currency exchanges, and the reduction in the effective cost of capital arising from the capital cost recovery provisions of the Economic Recovery Tax Act of 1981.

The economy was pushed into recession in 1981 because of very restrictive credit conditions. Despite a slowdown in the overall rate of inflation, long-term interest rates rose to record highs over the first nine months of 1981. Early on, the effects of the sharply increased real rates of interest were largely concentrated in a few key sectors, notably housing, autos, and net exports; by late summer 1981, the effects had become more widespread, and the economy moved into recession.

The purpose of this chapter is to review those economic developments that led to the current recession. It begins with a very brief review of the economy since 1978. This historical perspective is important both to an evaluation of the current economic slump and to an assessment of recent changes in U.S. monetary and fiscal policies. The second section of the chapter will provide a more detailed review of domestic and international economic developments during 1981.

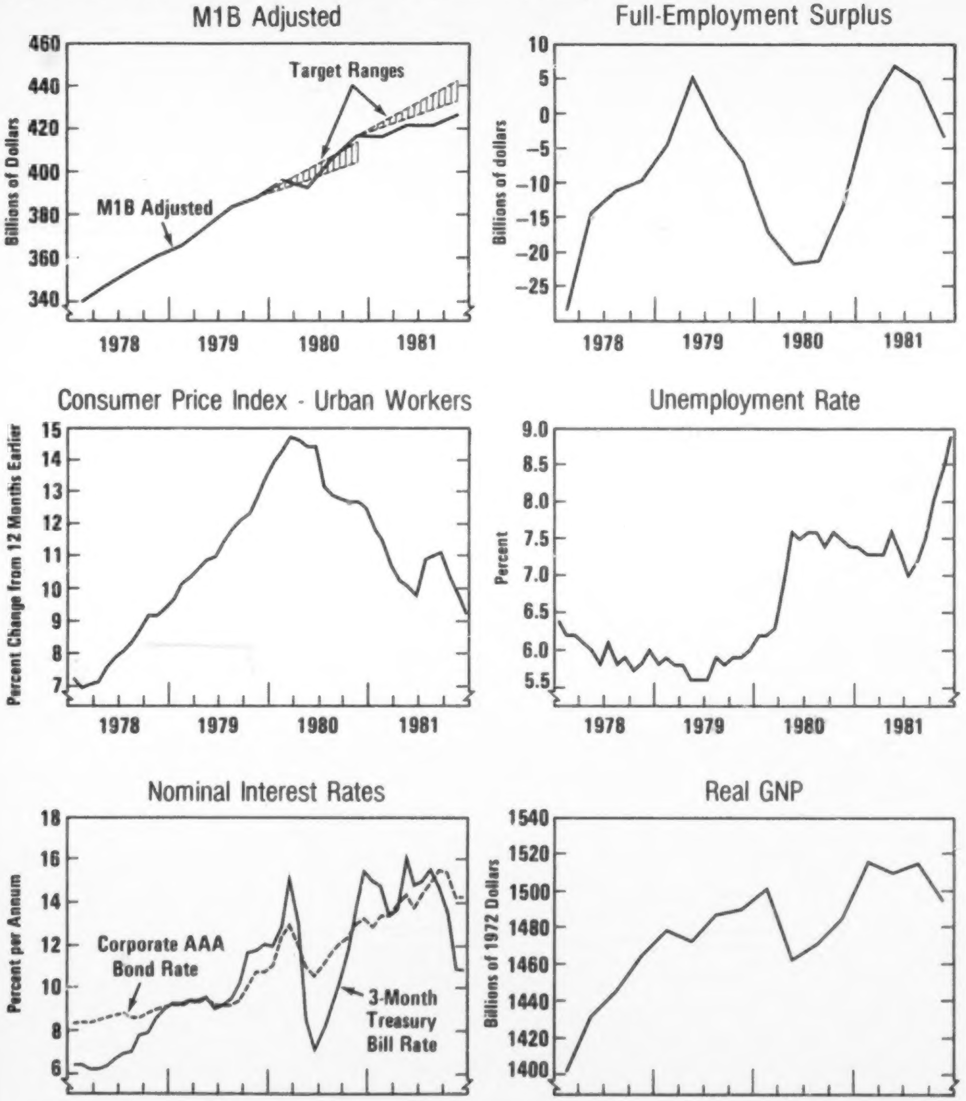
A BRIEF REVIEW OF ECONOMIC DEVELOPMENTS SINCE 1978

On several counts, the performance of the economy in recent years has been very disappointing (see Figure 1).

- There has been virtually no growth in real economic activity in over three years. Between the fourth quarter of 1978 and the fourth quarter of 1981, real gross national product (GNP) registered a net increase of only 2 percent.
- This otherwise flat trajectory has been punctuated by highly volatile swings in real economic activity that produced two recessions in as many years--the first in the spring of 1980 and the second beginning in the summer of 1981.
- The unemployment rate has increased markedly over the past three years, from an average rate of 5.8 percent in the fourth quarter of 1978 to an average rate of 8.4 percent in the fourth quarter of 1981.
- Inflationary pressures intensified beginning in 1978, although some moderation occurred during the last year. After rising by 9.0 percent from the fourth quarter of 1977 to the fourth quarter of 1978, the Consumer Price Index accelerated to 12.7 percent and 12.6 percent, respectively, during 1979 and 1980, before declining to 9.5 percent last year.
- Since 1977, there has been no gain in productivity. Not only has this served to aggravate the underlying rate of inflation, it has also contributed to a slowing in the growth of the nation's productive potential.

The generalized stagflation that has plagued the American economy since 1978 is hardly surprising in view of the intensification of inflationary pressures imparted by the OPEC price shocks of 1979 and 1980, and the slower rates of money expansion. The reduced rates of money growth served to limit the rate of growth of nominal GNP. Given the increase in the rate of inflation, most of the rise in nominal GNP was taken up by price increases, leaving little room for any expansion of real economic activity. The growth of real GNP was effectively braked by rising real rates of interest.

Figure 1.
Indicators of Economic Policies and Activity



SOURCES: Federal Reserve System, Board of Governors; U.S. Department of Labor, Bureau of Labor Statistics; U.S. Department of Commerce, Bureau of Economic Analysis; Congressional Budget Office.

Heightened Inflationary Pressures

The near doubling of foreign oil prices in 1979, and the additional 23 percent increase in 1980, caused sharp increases in the general level of prices in those two years. The direct effects of these oil price increases on the rate of inflation were subsequently reinforced by indirect effects. The indirect effects were of two sorts. First, the oil price increases raised production costs and, therewith, the prices of other goods and services. Second, the increase in the overall rate of inflation triggered, with a lag, increases in labor costs as workers attempted to catch up. The lagged adjustment of wages and salaries to cost-of-living increases was largely responsible for the continued strength of underlying inflationary pressures through 1981:

- Three commonly used measures of the underlying rate of inflation--the growth in the "stripped" CPI, the growth in normalized unit labor costs, and DRI's "core" rate of inflation--are provided in Table 1. As is evident, the underlying rate of inflation accelerated sharply in 1979 and again in 1980, leveling off or declining slightly in 1981 to a rate significantly higher than the rate for 1978. This increase in the underlying rate of inflation was largely the result of the passthrough of higher energy prices and increased mortgage interest costs to other goods and services and to labor costs.

The accelerated pace of inflation in the wake of the OPEC price shocks was a major contributing factor to the slowdown in real economic activity after 1978.

- Because U.S. residents were paying more for imported oil, the growth of real domestic income was reduced. This directly restrained the growth of economic activity generally.

- Because the adjustment of wages and salaries to price level increases is sluggish, higher inflation served to erode the growth of real personal income further.

- Income tax "bracket creep" (the rise in tax rates as inflation pushes individuals into higher tax brackets) caused reduced growth in real disposable personal income (and consequently consumer spending). Since 1978, the ratio of individual income taxes to taxable personal income has risen sharply, from 12.9 percent in 1978 to 14.3 percent in 1981. Social Security tax increases added to this drag on income growth.

- Higher inflation reduced the real value of business depreciation allowances, thereby increasing effective tax rates on corporate income above what they would otherwise be.

TABLE 1. MEASURES OF THE UNDERLYING RATE OF INFLATION (Percent change from one year earlier)

	1978:4	1979:4	1980:4	1981:4
"Stripped" CPI-U	7.3	8.3	10.2	8.1
DRI's "Core" Inflation	8.2	8.9	9.3	8.4 a/
Normalized Unit Labor Costs (Annual data) b/	7.6	8.8	10.1	9.6
Addendum: Derivation of Stripped CPI-U				
CPI-U (All items)	9.0	12.7	12.6	9.6
Energy	7.5	36.5	18.9	12.4
Mortgage Interest Costs	21.1	32.5	27.1	23.9
Food	11.5	10.0	10.3	4.9

SOURCES: U.S. Department of Labor, Bureau of Labor Statistics, Data Resources, Inc.; Congressional Budget Office.

a/ The fourth-quarter value of DRI's "core" inflation rate is from DRI's forecast of January 25, 1982.

b/ Based on CBO calculations of a compensation index and trend labor productivity. Most empirical evidence supports the view that cyclical variations in productivity growth are discounted in pricing decisions.

Reduced Rates of Money Growth

The restraint on real growth imposed by the inflationary consequences of the OPEC oil price increases was compounded by the strengthened anti-inflationary stance of monetary policy after 1978. Measured fourth quarter over fourth quarter, the growth of the narrowly defined money stock, M1B, slowed in 1979 to a rate of increase of 7.5 percent, down from the 8.2 percent pace of 1978. A modest further reduction in the growth of M1B, to a rate of 7.3 percent, was registered in 1980. In 1981, the growth of M1B was reduced precipitously, to a rate of only 2.1 percent. 1/ 2/

In combination with heightened inflationary pressures, reduced rates of money growth produced volatile and rapidly escalating nominal and real rates of interest in the post-1978 period. Comparing increases in the AAA corporate bond rate to increases in the underlying rate of inflation, for example, it is apparent that real bond rates have increased very sharply since the late 1970s, rising from a rate of about 1 percent at the end of 1979 to around 8 percent at the end of 1981 (see Figure 2). 3/ Although

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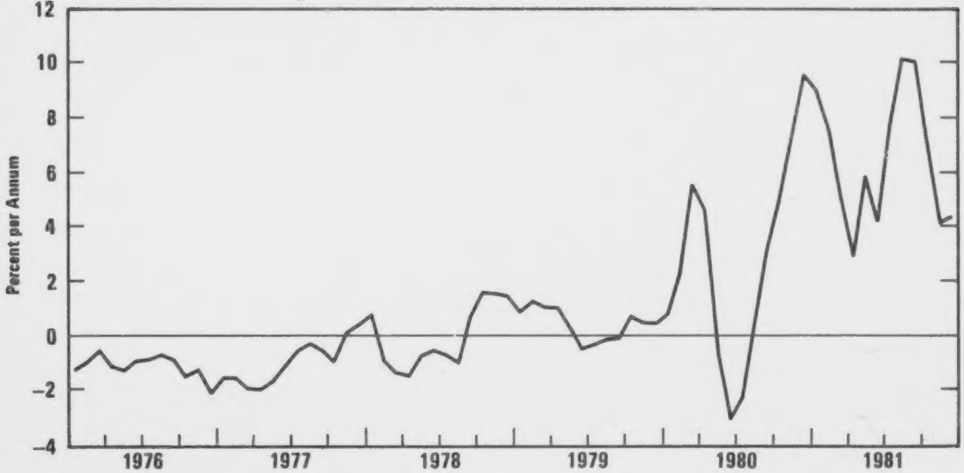
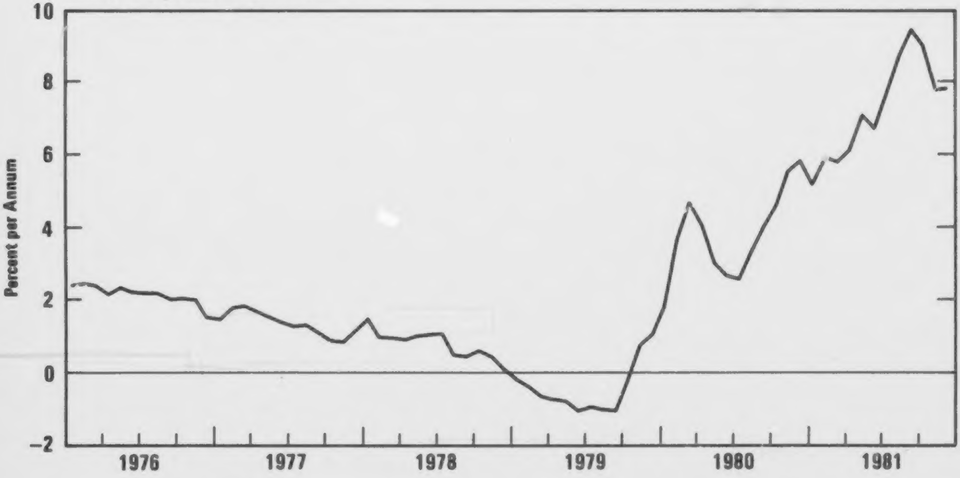
1/ Technically, the 2.1 percent growth figure for 1981 represents the growth rate of "M1B Adjusted." This particular aggregate is defined as M1B adjusted for estimated shifts into NOW accounts from interest-earning assets included in M2. The availability of NOW accounts on a nationwide basis on January 1, 1981, dictated the need to adjust M1B in order to permit meaningful comparisons of the narrowly defined money stock over time. It is appropriate, therefore, to compare the growth of M1B in 1980 and earlier years with the growth of M1B Adjusted in 1981.

2/ Since 1978, there has been almost no deceleration in the rate of growth of M2. This has caused some observers to conclude that monetary policy was less tight in 1981 than is indicated by the growth of M1B. This issue is examined in Chapter II.

3/ Technically, the real rate of interest is the nominal rate of interest minus the expected rate of inflation. The real bill rate is estimated by assuming that the underlying inflation rate realized in any 3-month period equals the rate of inflation expected 3 months earlier. For the real bond rate, it is assumed that the underlying inflation rate realized over a year

Figure 2.
Estimates of Real Interest Rates


Three-Month Treasury Bill Rate


AAA Corporate Bond Rate

NOTE: See text for information about calculation of real interest rates.

SOURCE: Congressional Budget Office.

real short-term interest rates exhibited even more volatility than long-term rates, their trend in recent years has also been sharply upward. This rise in rates served both to aggravate inflation temporarily and to restrain real growth and raise unemployment.

- Rising real rates of interest led to reduced rates of growth of nonresidential fixed investment.

- Residential construction and auto sales were particularly hard hit by the huge increases in real interest rates, especially in 1981.

- The increased demand for dollar-denominated assets on the part of foreign investors seeking higher returns in the United States was an important factor responsible for the sharp appreciation of the dollar on the world's currency exchanges. The appreciation of the dollar, by reducing the dollar price of imported goods and services, helped to slow the pace of domestic inflation, especially in 1981. However, dollar appreciation also slowed U.S. real economic growth by reducing real net exports. The fall-off in real net exports was particularly sharp in 1981.

- Although slower rates of money growth will reduce inflation over time, higher interest rates temporarily aggravated inflationary pressures. First, higher interest rates increased borrowing costs and, therewith, the prices of goods and services generally. Second, because some interest rates are components of the Consumer Price Index (CPI), increased interest rates raised the CPI measure of the price level directly. Mortgage rates are the most important interest rate component in the CPI. Over the course of 1981, the 2.4 percentage-point increase in

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3/ (Continued)

equals the rate expected 12 months earlier. (The inflation time horizon for calculating the real bond rate was chosen somewhat arbitrarily. However, estimates of the real bond rate are not very sensitive to variations in the time horizon for inflation.) The underlying inflation measure removes the volatile food, energy, mortgage interest cost, and used car components from the overall CPI-U index. Inflation rates used for 1982 are CBO projections.

closing mortgage rates raised the CPI measure of inflation by 1.9 percentage points more than it would have been otherwise.

Although underlying inflationary pressures remained strong in 1981, propelled forward both by worker efforts to catch up with previous high rates of inflation and by rising mortgage interest costs, the actual measured rate of inflation eased considerably. Indeed, measured year over year, CPI inflation fell by more than three percentage points from 1980 to 1981; and the growth of the Producer Price Index for Finished Goods fell by more than four percentage points. Why then did long-term interest rates continue to rise to record highs over the course of the first nine months of 1981? Simply put, money growth was reduced much more sharply than inflation. The result was sharply increased real rates of interest that ultimately pushed the economy off its near-zero growth path into recession in the second half of the year.

Other Factors in the Post-1978 Period

While slower rates of money growth and heightened inflationary pressures have dominated the economic picture since 1978, other factors have also helped shape the course of economic events.

- The performance of fiscal policy was mixed during these three years. Some traditional measures of fiscal stimulus suggest that the budget had a stimulative influence on the economy. However, as measured by the change in the high-employment budget, fiscal policy was mildly contractionary in 1979 and again in 1981.

- The changes in the high-employment budget tell only part of the fiscal policy story since 1978. First, effective tax rates on personal income rose sharply over this period of time due largely to bracket creep and increased Social Security taxes. Business incomes were also subjected to inflation-induced erosion in the real value of depreciation allowances. Whether, and to what extent, these increases in effective tax rates seriously impaired incentives to work, save, and invest continue to be matters of considerable controversy. Nevertheless, rising effective tax rates inspired the formulation and enactment of the Economic Recovery Tax Act of 1981.

  Second, the actual budget deficit rose to high levels during the last two years. These rising deficits, and the prospect of further increases in future years, are a source of considerable concern in view of the effect they may have in raising interest rates higher than they would be otherwise.

- While the factors responsible for the 1981 recession are reasonably clear, the proximate causes of the brief but sharp recession of 1980, beginning in January of that year and ending in July, are less well understood. The rapid surge in interest rates in late 1979 and early 1980, the by-product of slower money growth and rapid inflation, was undoubtedly a contributing factor. However, the Federal Reserve's credit control program, imposed in mid-March and continued until midsummer, may account for the large decline and quick turnaround in the middle of the year when the controls ended. The brevity of the recession, the shortest in postwar history, is largely attributable to the fact that the decline in real GNP was virtually matched by reduced final sales. Accordingly, excessive inventory accumulation, production curtailment in response, and inventory liquidation--characteristic features of other postwar recessions--were largely absent. The rebound from the recession, therefore, was unusually rapid.

A CLOSER LOOK AT ECONOMIC DEVELOPMENTS IN 1981

Recovery from the 1980 recession proceeded through the fourth quarter of 1980 and into the first month or so of 1981. Thereafter, real growth slowed appreciably. Indeed, the recovery from the 1980 recession stalled and the economy returned to the essentially near-zero growth path that had prevailed since the beginning of 1979. Even zero real growth proved unsustainable, however, and beginning in late summer 1981, the economy once again moved into recession. [4]

The rate of inflation slowed substantially in 1981, the consequence largely of very favorable price developments in the food and energy sectors and the sizable appreciation of the dollar in foreign exchange markets. Although lower inflation would normally have caused reduced rates of interest, the slowdown in money growth was so sharp that nominal and real rates of interest actually rose to record highs in 1981, declining only modestly late in the year, three months into the recession.

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[4] The National Bureau of Economic Research has designated July 1981 as a cyclical peak; it has yet to date the subsequent trough.

At year's end, the economy was in a "free fall" with cyclical imbalances in several sectors feeding on the cyclical imbalances in others. Thus, the production cutbacks required to correct the initial buildup of inventories in the fall of 1981 were aggravated by the reduced pace of consumer and business spending in response to those production cutbacks (see Figure 3). These interactions have caused some speculation that the current recession will be deep and prolonged. That view is not reflected in the current CBO forecast (presented in Chapter III). Indeed, according to the CBO, the downturn in the economy is likely to bottom out early in 1982. There is risk, of course, that the downturn could be prolonged by worsening financial conditions. The sharp increase in interest rates in recent weeks, following declining interest rates during the fall months, is the source of considerable concern. Barring the continuation of such adverse developments, a protracted decline seems unlikely.

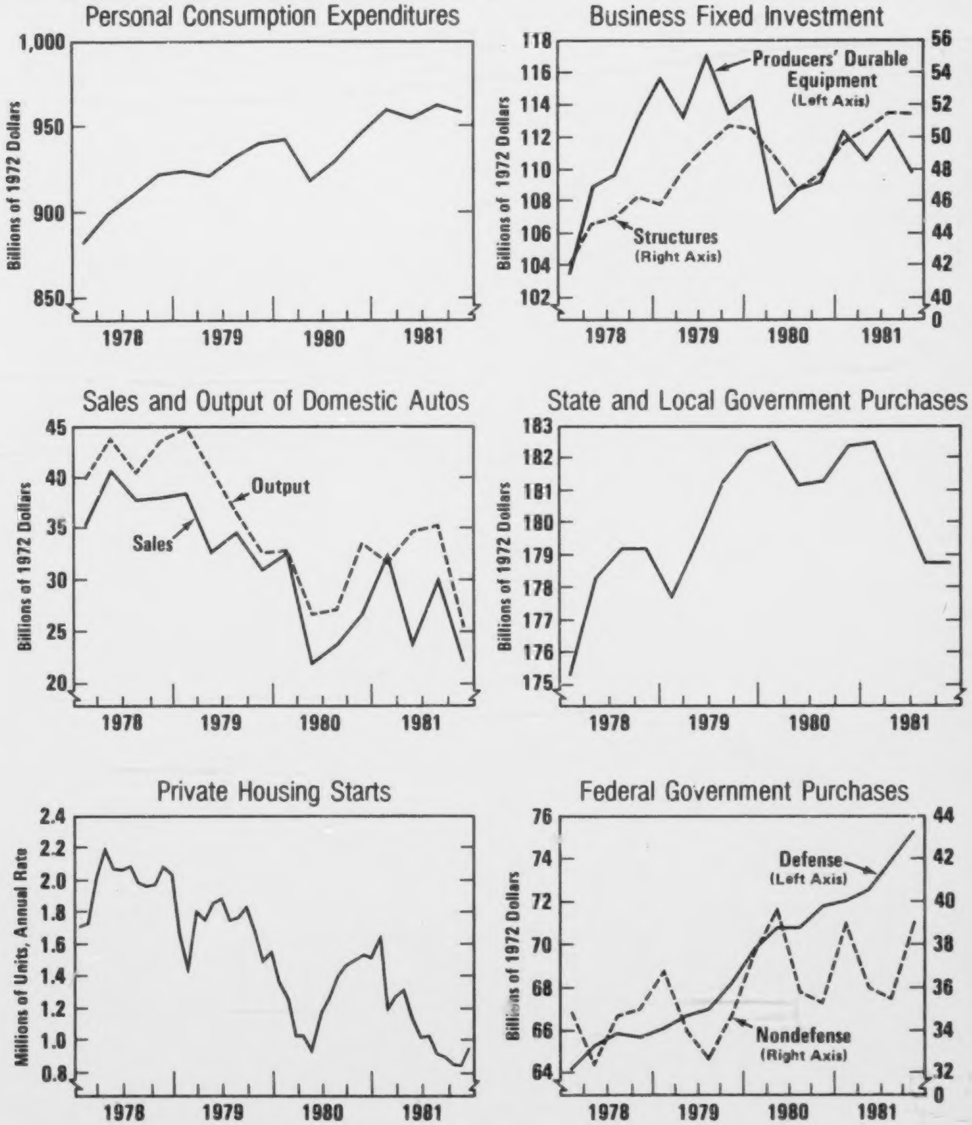
GNP Growth: A Flat First Half

The quarterly pattern of real GNP over 1981 shows that the economy was buffeted by highly volatile swings in activity (see Table 2). In fact, by many measures, the level of economic activity remained essentially constant through at least the first two quarters of 1981, followed in the third and fourth quarters by declines. 5/ Monthly data for real personal consumption expenditures and industrial production confirm this view. Further confirmation is provided by the pattern of change of the unemployment rate during 1981: the unemployment rate remained fairly constant for the first nine months of the year, hovering in the 7.0 to 7.6 percent range; thereafter, the unemployment rate rose sharply, peaking for the year at 8.9 percent in December.

5/ For more detail on the first half of 1981, see Congressional Budget Office, The Economic and Budget Outlook: An Update (September 1981), pp. 7-11.

Figure 3.

Components of Final Sales and Output


Personal Consumption Expendítures

Business Fixed Investment

Sales and Output of Domestic Autos

State and Local Government Purchases

Private Housing Starts

Federal Government Purchases

SOURCES: U.S. Department of Commerce, Bureau of Economic Analysis and of the Census.

TABLE 2. INDICATORS OF ECONOMIC ACTIVITY (Percent change from previous quarter at seasonally adjusted annual rate, unless otherwise noted)

	1980:4	1981:1	1981:2	1981:3	1981:4
Real GNP	3.8	8.6	-1.6	1.4	-5.2
Final sales	4.4	6.9	-4.7	0.3	-3.6
Personal consumption expenditures	7.0	5.8	-2.1	3.3	-1.8
Durable goods	21.2	24.1	-23.3	8.6	-19.2
New autos	48.6	92.9	-69.1	67.7	-51.4
Nondurable goods	6.3	4.6	2.7	2.1	0.4
Services	3.7	1.4	1.6	2.6	2.2
Fixed investment	15.7	10.8	-7.6	-4.4	-14.4
Nonresidential	4.0	13.3	-2.1	6.9	-10.9
Structures	9.0	16.6	6.7	8.4	-0.4
Producers' durable equipment	1.9	11.8	-5.9	6.3	15.4
New autos	6.1	48.0	-43.6	159.5	-63.8
Residential	64.2	3.6	-23.4	-36.2	-26.9
Government purchases	2.2	5.4	-5.6	-1.5	7.1
Federal	2.0	14.8	-8.4	3.1	19.4
Defense	5.9	1.1	2.6	7.9	7.5
Nondefense	-5.3	46.8	-26.4	-6.1	47.4
State and local	2.3	0.2	-3.8	-4.2	0.1
Exports	-7.4	13.6	-2.3	-3.5	-10.2
Imports	25.8	10.3	14.2	5.5	8.0
Net exports (billions of dollars)	48.5	50.9	46.2	43.2	36.7
Change in business inventories (billions of dollars)	-7.2	-1.4	10.8	14.9	8.5
Real Disposable Personal Income	2.9	3.0	1.4	2.6	1.3
Saving Rate (percent)	5.1	4.6	5.4	5.2	6.0
Industrial Production: Manufacturing Sector	21.6	7.5	2.9	0.3	-18.3
Civilian Labor Force	0.7	2.4	3.7	-1.2	1.4
Unemployment Rate (percent)	7.5	7.3	7.4	7.2	8.4

SOURCES: U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Board of Governors; and U.S. Department of Labor, Bureau of Labor Statistics.

THE BEGINNING OF THE 1981 RECESSION

The sluggish, near-zero growth of real economic activity over the first half of 1981 proved to be unsustainable. In response to weakening final demands, real inventories increased, giving rise to production cutbacks, worker layoffs, and reduced workweeks that apparently continued through December into January of this year.

Unlike most earlier recessions, the decline in real economic activity in the second half of 1981 was not preceded by speculative investment in inventories or capital goods or by several quarters of rapid growth that pushed the economy to its capacity limits. On the contrary, the economy had essentially been drifting sideways since the beginning of the year at a level well below its productive potential. Moreover, the U.S. economy was not forced into recession by external supply shocks of the sort that figured prominently in the 1973-1975 recession and in the slowdown in economic activity in 1979 and 1980. Indeed, the supply shocks that did occur as a result of the decontrol of domestic oil prices and the rise in Social Security taxes in January 1981 were largely, if not completely, offset by the dip in world oil prices, the slower advance of food prices, and the marked appreciation of the dollar on the world's currency exchanges.

The economy was plunged into recession in 1981 because of acutely restrictive credit conditions. Interest rates rose to record levels and money growth was slowed abruptly. Measured from fourth quarter to fourth quarter, M1B Adjusted grew by only 2.1 percent in 1981, down sharply from the 7.3 percent rate of increase recorded in 1980. Importantly, over half the growth of M1B Adjusted occurred in the last two months of 1981.

The reduction in money growth was much sharper than the reduction in inflation in 1981. Thus, despite a slowdown in the overall rate of inflation and a sharply reduced rate of real economic growth--factors that would normally have damped considerably upward pressures on interest rates--long-term interest rates continued to trek upward, albeit at an uneven pace, to record highs over the course of the first nine months of 1981. The coincident slowing in the underlying pace of inflation in 1981 translated these rising nominal interest rates into rapidly escalating real rates of interest. Indeed, the real AAA corporate bond rate rose by about four percentage points between January and its October peak.

The importance of adverse financial conditions in the current recession is amply revealed in the compositional changes in spending that occurred in 1981.

- Among the major categories of final demands, only real consumer spending for services and nondurable goods, and government spending for defense, experienced positive real growth in all four quarters of 1981.
- The initial weakness in sales in 1981 was largely concentrated in categories that are highly sensitive to changes in interest rates--residential investment, autos, consumer durables generally, business investment, and net exports. (The responsiveness of net exports to changes in interest rates stems in part from the effects of rising U.S. real rates of interest on the foreign exchange value of the dollar. This is discussed in greater detail below.) In time, the initial weakness in these expenditure categories spread to other categories of final sales.

Is the Recession Trough Imminent?

How near the economy is to a recession trough is difficult to determine. It depends in large measure on whether sufficient progress has been made in preventing excessive inventories and whether the hike in interest rates in recent weeks will serve to prevent renewed activity. Census Bureau data on inventories for manufacturers, retailers, and merchant wholesalers suggest that, as of the end of November--the date of the latest available statistics--little progress had been made in reversing the inventory buildup that resulted from weak demands. However, preliminary GNP statistics showed a much slower rate of accumulation of real business inventories in the fourth quarter of 1981 than in the third quarter. Moreover, the sharp decline in industrial production in recent months indicates that producers are trying hard to work off unwanted inventories. But if the correction is not yet complete, production adjustments may be stretched out further than most forecasters are now predicting, an outcome that could delay the date of the recession trough by a month or two at least.

The sharp, renewed increase in interest rates over the past two months further complicates the picture. It is not well understood why interest rates turned up as they did given weak private-sector credit demands and reduced inflation. Some analysts have argued that the rise in short-term rates was a consequence of the very sharp spurt in the growth of M1 over the past 13 weeks. Given the Federal Reserve's money growth targets for 1982, short-term rates may have risen in anticipation of actions to slow the rate of money growth. The rise in long-term rates apparently reflects the rise in short-term rates and increased inflationary expectations. In view of prospective large increases in federal budget deficits, market participants may be betting that the Federal Reserve will decide to monetize those deficits--that is, permit more rapid rates of money growth in order to absorb additional amounts of federal debt--ultimately driving up the rate of inflation. In any event, whatever the source of the recent increase in interest rates, sustained high rates could be enough to delay a recovery or stop it shortly after it begins.

The CBO forecast presented in this report suggests that the recession will not last beyond the first quarter. Although the evidence is mixed, some signs point in that direction.

- Following declines in September and October, real consumer spending firmed up in November and December. When this is combined with the sharp 1.9 percent reduction in industrial production in November, and the even larger 2.1 percent reduction in December, it suggests that progress in reversing the earlier accumulation of inventories had begun by year's end.

- After dropping for several months, the University of Michigan's index of consumer sentiment stabilized in December.

- Sales of new homes rose modestly in October and November.

- Following substantal declines earlier in the year, single-family housing starts turned up in November and December. On the other hand, the bad weather prevalent in much of the country in January is likely to have brought some housing activity temporarily to a halt.

- State and local government construction, which had fallen by almost 20 percent in real terms between January and September, stabilized in October and November.

- At the federal government level, orders data suggest that activity in defense-related industries continues strong.

- o Although manufacturers' operating rates and profit margins are low, new orders received by capital goods manufacturers increased in November and December, partially offsetting the sharp decline in October.

The easing of credit conditions between October and December may have been partly responsible for these favorable developments. If that is the case, it represents an unusually rapid response. However, reaction times may now be much shorter than in the past in view of the apparent sizable pent-up demands for housing and other durables that were earlier restrained by adverse financial conditions. By the same reasoning, the firming up of interest rates in recent weeks ought to be the source of some doubt about the near-term outlook.

In any event, assuming that the economy is at or near the recession trough, one might reasonably expect a few more months of declining production and increasing unemployment until earlier excess inventory accumulation is reversed.

International Sector Developments

As is clear from Table 2, real net exports declined sharply over the course of 1981, from $50.9 billion in the first quarter to $36.7 billion in the fourth. This $14.2 billion swing in real net exports was another contributing factor to the downturn in economic activity in 1981.

A number of factors combined to produce the deterioration of net exports, a trend that began in mid-1980 (see Figure 4). Two factors were critically important.

- o Between August 1980 and August 1981, the trade-weighted foreign exchange value of the dollar [6] appreciated by more than 30 percent (see Figure 5). This increase in the foreign exchange value of the dollar caused a marked reduction in the relative competitive position of U.S. producers in world markets. Both U.S. export and U.S.

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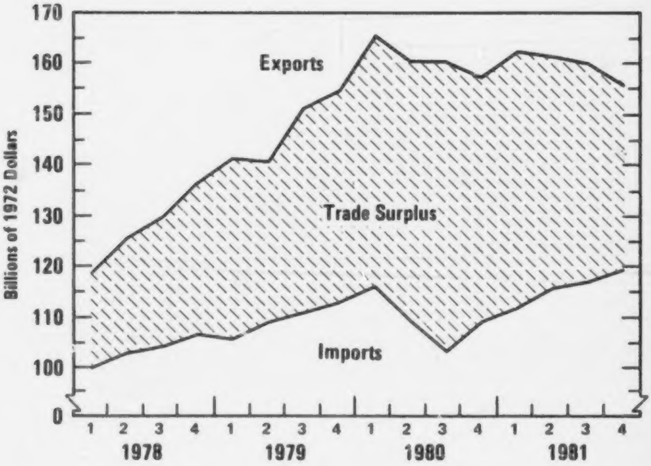
[6] The trade-weighted foreign exchange value of the dollar is an index of the weighted average exchange value of the U.S. dollar against the currencies of other G-10 countries plus Switzerland. The weights are the 1972-1976 global trade of each of the 10 countries.

Figure 4.
Exports and Imports of Goods and Services



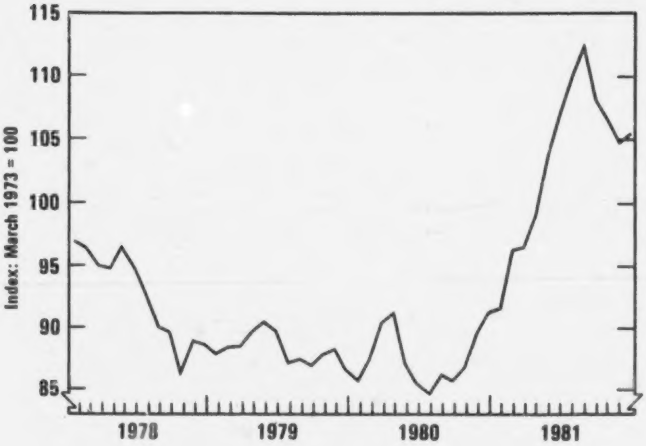
SOURCE:
U.S. Department of Commerce,
Bureau of Economic Analysis.

import-competing industries suffered sizable reductions in their sales volumes as a consequence.

- The reduction in foreign (relative to U.S.) real rates of growth, a development that was particularly strong after the middle of 1980, served to slow abruptly the growth of U.S. real exports relative to real imports. The slowdown in foreign economic activity over this period was largely the result of tighter foreign monetary policies instituted to counter the effects of rising U.S. real rates of interest; specifically, to counter the attendant inflationary effects of declines in the exchange values of their currencies brought about by increased outflows of capital to U.S. financial markets.

The dramatic increase in U.S. (relative to foreign) real short-term rates of interest was perhaps the principal factor responsible for the huge appreciation of the dollar from the middle of 1980 to the middle of 1981. The narrowing of those real interest rate differentials in the fall of 1981—largely the result of lower nominal U.S. interest rates and more rapid U.S. inflation during that period—tipped the relative real interest rate advantage away from the United States in favor of foreign financial markets. As a result, the dollar moved down in foreign exchange markets. Thus, between August and December 1981, the trade-weighted foreign exchange value of the dollar fell by approximately

Figure 5.
Trade-Weighted Value of the Dollar



SOURCE:
Federal Reserve System, Board of Governors.

6 percent, reversing by about one-fifth the earlier dollar appreciation. Since early December, however, the dollar has moved up again; by the end of the third week in January the rise was sufficient to wipe out about half of the decline registered between August and December. Once again, the main factor responsible for the renewed appreciation of the dollar was rising relative U.S. real rates of interest, the result of both the firming up of U.S. nominal rates of interest and lower U.S. rates of inflation at year's end.

Over the course of the next year or so, the dollar is not expected to move substantially in one direction or the other--in part because no significant changes in inflation and real growth differentials are expected between the United States and its trading partners, and in part because relative U.S. real rates of interest are expected to remain at fairly high levels. For the same reasons, U.S. net exports are expected to remain fairly steady over the near term.

Price and Wage Inflation

The good news in 1981 was posted on the inflation scoreboard. After advancing at a rate of 12.5 percent from the fourth quarter of 1979 to the fourth quarter of 1980, the growth of the Consumer Price Index (CPI-U) slowed sharply in 1981 to a rate of increase of 9.5 percent. The Producer Price Index for Finished Goods also decelerated rapidly in 1981, especially in the second half of the year (see Table 3).

The improvement in the overall rate of inflation in 1981 was largely the result of three developments. First, despite widespread expectations to the contrary, food prices did not accelerate in the first half of 1981 in response to the poor feed grain harvests of 1980. Indeed, during the first half of last year, food prices rose somewhat less rapidly than the prices of other goods and services. And in the second half of 1981, food prices fell sharply relative to the prices of other goods and services—the result, principally, of the bountiful harvests recorded in the summer and fall months. The sharp drop in relative food prices in the second half of 1981 accounts for most of the decline in the growth of the Producer Price Index in the last half of the year.

Second, rather than rising fairly rapidly as many forecasters expected one year ago, oil prices in international markets actually fell somewhat over the course of 1981. Finally, the foreign exchange value of the dollar rose sharply on the world's currency exchanges in 1981 (see Table 4).

The direct impact of food and fuel price changes on inflation is substantial. Food prices account directly for about 17 percent of the CPI. The prices of oil products account directly for about another 7 percent, and the cost of oil used as energy or petrochemicals to produce other goods and services accounts for approximately another 7 percent. Thus, a large portion of the CPI--nearly one-third--is accounted for by food and fuel.

Dollar appreciation tends to hold down the CPI index by lowering the dollar prices of imported goods and services. The 16 percent appreciation of the dollar over the course of 1981 can be expected to reduce the CPI eventually by about 1.6 percent, assuming it is not subsequently reversed by dollar depreciation. 7/

7/ Not all measures of inflation are equally affected by changes in the exchange rate. In particular, the implicit GNP price deflator, which by definition excludes the prices of imported goods and services, is unaffected directly by dollar appreciations and depreciations. It is, however, subsequently affected as changes in the prices of imported goods and services are passed through to other goods and services and to labor costs.

TABLE 3. PRICE INFLATION (Percent change, seasonally adjusted annual rate)

	1980:1	1980:2	1980:3	1980:4	1981:1	1981:2	1981:3	1981:4
CPI-U a/	16.5	13.1	7.7	12.9	10.8	7.5	12.0	7.7
CPI-U Less Food and Energy	14.8	13.9	6.9	13.2	8.9	8.9	15.0	8.4
Producer Price Index For Finished Goods	16.5	10.5	14.0	8.9	10.7	9.4	4.2	4.5
GNP Implicit Price Deflator	9.3	9.8	9.2	10.7	9.8	6.4	9.9	8.4
GNP Fixed-Weighted Price Index	9.7	9.3	9.0	10.4	10.2	7.9	9.5	8.3

SOURCES: U.S. Department of Labor, Bureau of Labor Statistics; U.S. Department of Commerce, Bureau of Economic Analysis.

a/ Consumer Price Index for all urban consumers.

TABLE 4. FOOD AND FUEL PRICES, AND THE EXCHANGE RATE

	Percent Change from Previous Year				Percent Change from Previous Quarter, Annual Rate			
	1978	1979	1980	1981	1981:1	1981:2	1981:3	1981:4
Consumer Price Index, Food and Beverages Component	9.7	10.7	8.6	7.8	5.5	1.2	7.1	7.0
Producer Price Index, Refined Petroleum	4.2	38.5	51.7	19.4	50.6	33.0	-10.6	-6.0
Refiners' Acquisition Cost, Imported Crude Oil	0.3	48.7	56.4	n.a.	47.8	-9.6	-20.9	n.a.
Trade-Weighted Value of Dollar	-10.6	-4.7	-0.8	18.2	27.5	41.3	29.9	-16.0

SOURCES: U.S. Department of Labor, Bureau of Labor Statistics; U.S. Department of Energy; Federal Reserve System, Board of Governors.

The effects on inflation of changes in the foreign exchange value of the dollar, and in food and fuel prices, are not limited to their direct effects. They also have important indirect effects on other prices, including wages. Some wage changes occur automatically as a result of cost-of-living adjustment clauses in wage contracts. Other wage changes occur that are less automatic: In an effort to catch up with past inflation, many negotiated contracts contain first-, second-, and perhaps third-year wage hikes that are larger than they would be otherwise; and workers who are not under wage contracts are frequently under implicit contracts with their employers to receive, quasi-automatically, wage increases to make up for past inflation. These wage hikes, by raising labor costs, contribute to further increases in the general level of prices. It is important to note, however, that most of these indirect wage effects occur not immediately but with a lag.

In this regard, the deceleration in the growth of labor costs in 1981 was much less marked than the reduction in the overall rate of inflation. Indeed, outside of the encouraging sharp drop in the last quarter of the year, trends in labor costs over the course of 1981 showed only slight moderation (see Table 5). Measured in terms of percentage change from one year earlier, the Index of Average Hourly Compensation--which includes both employer contributions to social insurance and the costs of fringe benefits--rose at rates of 10 percent or more in each of the first three quarters of 1981, little changed from the rate of increase in 1980. The wage and salary component of the Employment Cost Index for the private nonfarm economy, widely regarded as one of the most reliable measures of labor costs, confirms the sustained high level of wage inflation observed in the compensation data for the first three quarters of 1981. Measured in terms of percentage change from one year earlier, the Employment Cost Index has shown little change in the past two years. In the fourth quarter, however, the growth of the Index of Average Hourly Compensation decelerated sharply, to an annual rate of increase of only 6.5 percent relative to the third quarter.

One measure of wage inflation--the Index of Average Hourly Earnings--showed a more substantial moderation in the growth of labor costs during 1981. This index is a measure of wage trends for production and nonsupervisory personnel adjusted for interindustry employment shifts and for overtime charges in manufacturing. Annualized growth in this index slowed by 2.7 percentage points between the first quarter of 1981 and the fourth quarter.

Many analysts believe the Index of Average Hourly Earnings overstated the reduction in labor costs that occurred in 1981 because it fails to adjust wage trends for occupational employment shifts that were apparently substantial in 1981. Indirect evidence of the importance of this shift is provided by a comparison of the wage and salary component of the Employment Cost Index with the Index of Average Hourly Earnings: the main difference between these two measures is that the former makes adjustments for occupational employment shifts whereas the latter does not.

TABLE 5. LABOR COSTS (Seasonally adjusted)

	1980:1	1980:2	1980:3	1980:4	1981:1	1981:2	1981:3	1981:4
	Percent Change from One Year Earlier							
Compensation per Hour	9.7	9.9	10.1	10.1	10.5	10.0	10.2	9.3
Employment Cost Index a/ b/	9.1	9.3	9.4	9.0	9.3	9.3	9.1	n.a.
	Percent Change from Previous Quarter, at an Annual Rate							
Average Hourly Earnings Index	9.2	10.0	9.0	10.3	9.7	8.4	8.4	7.0

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics.

a/ Data are for the private nonfarm sector.

b/ Index for wage and salary component of compensation.

The more moderate reduction in the growth of labor costs relative to the overall pace of inflation in 1981 reflected, in part, worker efforts to catch up with past high rates of inflation. By the fourth quarter of 1981, however, there was strong evidence that underlying inflationary wage pressures were finally beginning to ease. In response to further prospective declines in inflation and to widespread weakness in labor markets, CBO expects that the growth of employee compensation will decelerate significantly further in the near term.

The CBO near-term outlook for wage inflation is likely to be bolstered by some recent, highly irregular union labor market developments. Because of rising unemployment and the increasing threat of business failures, some unions have given up wage gains, and others have actually accepted wage cuts, behavior that has been exceptional in post-World War II history. Will these changes in negotiated wage levels significantly affect long-term wage trends? They may, but that does not appear to be the most likely outcome. Since 1975, union wages have increased by about 10 percent more than nonunion wages as measured by the Employment Cost Index. For the larger unions, the increases in relative wages have been even greater. Thus, as the economy weakened and as competition, particularly from U.S. trading partners, became more intense, wages in those sectors of the economy became more vulnerable. Accordingly, the current squeeze on key union wage rates may represent nothing more than a temporary downward adjustment of union to nonunion rates. This squeeze will exert downward pressure on wage inflation during the early part of 1982 at least, but will probably not alter substantially the general, longer-term trends in wages.

CHAPTER II. MONETARY AND FISCAL POLICY

As the previous discussion has shown, financial conditions played the leading role in bringing on the current economic downturn. The high interest rates and other stringent credit conditions that prevailed until the recession began caused weakness in housing and auto sales that later spread to other sectors of the economy. High interest rates also brought about a rapid appreciation of the dollar in foreign exchange markets, which contributed to the reduction in real net exports. Fiscal policy further contributed to weak private demands because of the inflation-induced increases in effective income tax rates and the increase in Social Security taxes.

Statements from the Federal Reserve suggest that monetary policy will continue its anti-inflationary stance in the coming years. If inflation does not slow quickly, this policy will likely limit real growth in sectors of the economy most sensitive to high interest rates. By contrast, the budget measures enacted last summer will provide considerable stimulus to economic activity over the next few years. This suggests the possibility of a clash between monetary and fiscal policy unless the Congress enacts further spending cuts and tax increases to reduce federal borrowing or the Federal Reserve adopts a less restrictive monetary policy. If the clash materializes, it will be reflected in high real interest rates that crowd out private investment. The size of these effects is hard to predict. The tax cuts should provide a substantial boost to private savings and investment in the longer run, but some fear that the major objective of the tax cuts--increased business investment--could be a casualty of high real interest rates, at least during the next few years. Other analysts deny that monetary and fiscal policy are on a collision course; they anticipate a sizable boost in saving in the wake of the tax cuts, which could largely offset the upward pressure on interest rates.

The impact of current monetary and fiscal policies on the economy is uncertain for other reasons as well. Although prospective Federal Reserve money targets appear to be very restrictive, recent dramatic changes in financial markets have made it quite difficult to appraise the targets and predict their effects. Similarly, while the fiscal policy now in force is expected to

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provide a boost to the economy, the sizable distributional and compositional changes made last summer in tax and spending policies are hard to assess, especially for the next few years.

FISCAL POLICY

In 1981, the Congress and the Administration enacted sweeping changes in budget policies to sharply reduce tax burdens, raise defense spending, and slow the growth of nondefense spending. Because the tax cuts are larger than the spending reductions, these budget policies are likely to cause large and growing deficits in coming years unless further budget action is taken.

The Structure of Budget Policy

Although the precise quantitative impacts are uncertain, the structural features of the tax and expenditure policies adopted in 1981 may have important implications for the supply and allocation of economic resources. The Economic Recovery Tax Act of 1981 provides various incentives to work, save, and invest, including: lower marginal tax rates on personal income; increased tax incentives for saving; and enhanced tax incentives for capital formation. The spending policies are intended to reduce the growth in federal outlays and to shift resources to national defense activities. These tax and spending measures are intended to slow the growth of personal consumption expenditures and to foster higher levels of private business investment.

Personal Income Taxes. In recent years, personal taxes have taken an ever larger bite of personal income. Thus, despite several legislated tax reductions, the ratio of personal income taxes (NIPA basis) to taxable personal income rose steadily from 11.3 percent in 1975--the year of the antirecession tax rebates--to a record high of 14.3 percent in 1981 (see Figure 6). 1/ The Economic Recovery Tax Act of 1981 is expected to reverse this

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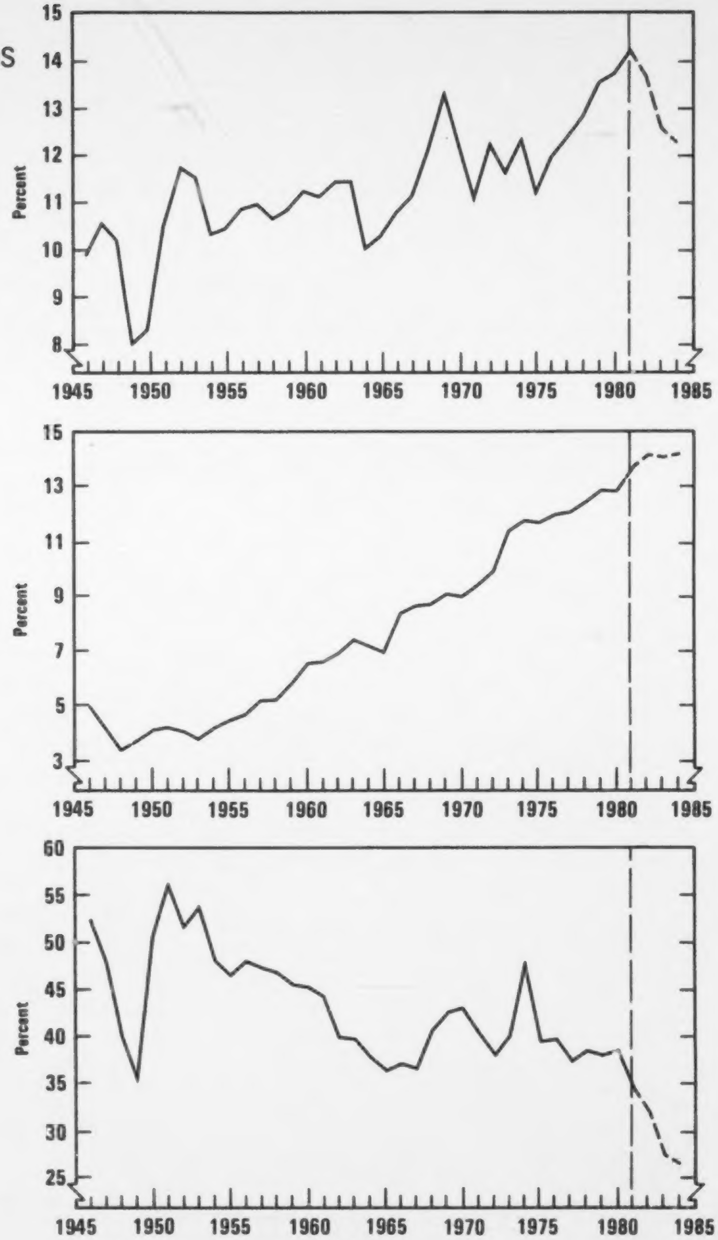
1/ The 1981 reduction in marginal individual income tax rates was 1.25 percent, an adjustment insufficient to offset the effect of bracket creep.

Figure 6.

Effective Tax Rates



Federal Personal Income Taxes as a Percentage of Taxable Personal Income

Federal Social Insurance Contributions as a Percentage of Wages and Salaries

Federal Corporate Profit Tax Accruals as a Percentage of Economic Profits

NOTE: Broken line indicates projections.

SOURCES: U.S. Department of Commerce, Bureau of Economic Analysis; Congressional Budget Office.

trend. 2/ Through 1984, however, inflation is expected to offset a significant portion of the reduction in the effective personal income tax rate. Accordingly, the projected effective tax rate declines only to 12.4 percent in 1984--a rate that is still very high by historical standards. Thus, the average personal income tax burden is expected to remain relatively high for at least the next few years. The tax burden on high-income individuals, however, will decline significantly, largely because of the reduction in the maximum marginal tax rate on unearned income from 70 to 50 percent. 3/

While the 1981 tax act lowers the average personal tax rate, tax liabilities and marginal tax rates for many taxpayers in 1984 may be above their 1980 levels, even if their taxable incomes do not grow in real terms. For example, a married couple filing jointly with taxable income of $29,000 in 1980 (the 32 percent marginal rate bracket) paid $5,913 in federal income taxes (see Table 6). If their taxable income were 35 percent higher in 1984

2/ The act includes an across-the-board rate reduction for individuals amounting to 23 percent over 33 months, and a January 1, 1982, reduction in the top marginal rate on unearned income from 70 to 50 percent--lowering the top effective rate on capital gains income from 28 percent to 20 percent. It also reduces the "marriage penalty," and provides exclusions for several forms of savings.

3/ In addition to taxes on wages and salaries, personal income taxes in the National Income and Product Accounts include taxes on unincorporated business profits, dividends, interest, and capital gains. These other sources of personal income represent a relatively small proportion of adjusted gross income (AGI), and are concentrated in the upper-income tax brackets. For example, in 1978, wages and salaries accounted for 83.6 percent of adjusted gross income of all taxable returns. However, wages and salaries represented 88.6 percent of the income of those with $30,000 or less of AGI, 77.8 percent of income in the $30,000 to $100,000 AGI class, and only 48.2 percent of the AGI incomes above $100,000. Because many high-income individuals are already in the new maximum marginal tax rate bracket, which means they are not subject to further bracket creep, the 20 percentage-point reduction in the marginal tax rate on unearned income represents a significant reduction in their real tax burdens.

TABLE 6. THE INDIVIDUAL INCOME TAX RATE STRUCTURE, 1980 AND 1984

Taxable Income	Marginal Tax Rate		Average Tax Rate	
	1980	1984	1980	1984
0 - 3,400	0	0	0	0
3,400 - 5,500	14	11	0 - 5.3	0 - 4.2
5,500 - 7,600	16	12	5.3 - 8.3	4.2 - 6.4
7,600 - 11,900	18	14	8.3 - 11.8	6.4 - 9.1
11,900 - 16,000	21	16	11.8 - 14.2	9.1 - 10.9
16,000 - 20,200	24	18	14.2 - 16.2	10.9 - 12.4
20,200 - 24,600	28	22	16.2 - 18.3	12.4 - 14.1
24,600 - 29,900	32	25	18.3 - 20.7	14.1 - 16.0
29,900 - 35,200	37	28	20.7 - 23.2	16.0 - 17.8
35,200 - 45,800	43	33	23.2 - 27.8	17.8 - 21.3
45,800 - 60,000	49	38	27.8 - 32.8	21.3 - 25.3
60,000 - 85,600	54	42	32.8 - 39.1	25.3 - 30.3
85,600 - 109,400	59	45	39.1 - 43.5	30.3 - 33.5
109,400 - 162,400	64	49	43.5 - 50.2	33.5 - 38.5
162,400 - 215,400	68	50	50.2 - 54.6	38.5 - 41.4
215,400+	70	50	54.6+	41.4+

NOTE: This table has not been adjusted to take account of tax credits.

SOURCES: 1981 U.S. Master Tax Guide, Schedule Y; Economic Recovery Tax Act of 1981.

($39,150)--approximately the projected increase in the general price level--they would have a 1984 tax liability of $7,578 and a marginal tax rate of 33 percent. 4/ Their average tax rate,

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4/ While the 1984 marginal tax rate is higher than that for 1980, it is ten percentage points below the 43 percent rate that would have been applicable if there had been no reduction in statutory rates. Thus, to the extent that personal saving and work effort are affected by the level of marginal tax rates, this hypothetical couple would not be induced to save or work more in 1984 than in 1980, but they would be less likely to reduce their saving and their work effort as might have occurred had the rate reductions not been enacted.

however, would decline from 20.4 percent in 1980 to 19.4 percent in 1984. 5/

In contrast, a couple with a taxable income of $150,000 in 1980, with a marginal tax rate of 64 percent (on unearned income) paid $73,528 in taxes. Despite a 35 percent increase in taxable income (to $202,500), their marginal tax rate in 1984 would be only 50 percent--a decline of 14 percentage points--and their 1984 tax liability would be $82,650, implying an average tax rate of 40.8 percent compared to 49 percent in 1980.

Payroll Taxes. While bracket creep has raised effective tax rates on both earned and unearned income, increases in payroll taxes have contributed significantly to the growth of the tax burden on wages and salaries. 6/ Combined employer, employee, and self-employed contributions for social insurance programs averaged 4.5 percent of wages and salaries in the 1950s; 7.6 percent in the 1960s; and 11.2 percent in the 1970s. 7/ They rose further to 13.7

5/ In this example, bracket creep places the couple two tax brackets higher in 1984 than in 1980. If the couple were in the lower range of the $24,600-$29,900 tax bracket in 1980, with taxable income of $25,000, their 1984 marginal tax rate would be reduced to 28 percent.

6/ In the National Income and Product Accounts, over 80 percent of federal social insurance contributions consists of Social Security (OASDHI) taxes. The remainder consists largely of contributions for unemployment insurance and federal employee retirement. Increases in the effective social insurance tax rate primarily have reflected changes in Social Security taxes, including upward adjustments in the Social Security tax rate, increases in the ceiling on maximum taxable earnings, and extensions of coverage to groups previously not covered under the Social Security program.

7/ Research indicates that some of the employers' share of social insurance contributions is shifted backward to employees (in the form of lower compensation) or forward to consumers (through higher product prices).

percent in 1981, and by 1984 are expected to be over 14 percent. 8/ This increase in the average effective payroll tax rate will raise the tax burden on labor income relative to that on nonlabor income, and will augment the effects of bracket creep on relative tax burdens.

Corporate Taxes. In contrast to the upward movement of effective personal and social insurance tax rates in recent years, corporate taxes have generally declined as a percent of economic profits during the 1975-1980 period. 9/ This rate is estimated to have fallen by four percentage points between 1980 and 1981, and is projected to decline eight percentage points more by 1984. The estimated rate of 26 percent in 1984 is nine percentage points below the rate observed in any year during the 1946 to 1980 period, and significantly augments the reduction in personal tax rates on unearned income contained in the Economic Recovery Tax Act of 1981.

The major component of the business tax reduction in the 1981 tax law is the new Accelerated Cost Recovery System (ACRS)--the so-called 15-10-5-3 provision. While ACRS shortens the tax lives of depreciable assets appreciably, 10/ and is more advantageous

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8/ The ceiling on maximum taxable earnings under the Social Security program is projected to increase from $29,700 in 1981 to $37,800 in 1984 according to an indexing formula. The combined employer-employee OASDHI tax rate rose from 13.3 percent in 1981 to 13.4 percent in 1982, and is scheduled to remain at this level until 1985.

9/ Recent studies of the effective tax rate on corporate income include: Martin S. Feldstein and Lawrence Summers, "Inflation and the Taxation of Capital in the Corporate Sector," National Tax Journal (1979), pp. 445-70; and Jane G. Gravelle, "Inflation and the Taxation of Capital in the Corporate Sector: A Comment," National Tax Journal (1980), pp. 473-84. These studies take account of the taxes paid by corporate stockholders and creditors, which are not reflected in the effective NIPA corporate tax rates displayed in Figure 6.

10/ It should be noted, however, that the benefits of shorter depreciation periods are temporarily reduced by less beneficial depreciation rates, which are to be restored partly in 1985 and fully in 1986.

than immediate expensing in some cases, its impact on the profitability of different types of assets is not neutral (see Appendix A). Moreover, the continued use of historic-cost, as opposed to replacement-cost, depreciation means that depreciation costs (and thus the effective tax rate on income from depreciable capital) will remain sensitive to the rate of inflation. In contrast, the effective tax rate on labor income will become relatively immune to inflation after 1984, when indexation of tax brackets, personal exemptions, and the zero bracket amount begins.

The Structure of Federal Spending. During the 1982-1984 period, the flow of federal transfers to persons and to state and local governments will be reduced considerably relative to GNP, while net interest payments and defense outlays rise (see Figure 7). Since many of the personal transfers and state and local grants are used to support consumption spending by low-income groups and capital spending by state and local governments, these structural changes in federal spending programs could alter the composition of output in favor of private capital formation. At the same time, however, they may cause hardship for persons dependent on transfer programs and increase the financial burdens of state and local governments, especially while the economy is weak and unemployment rates remain high.

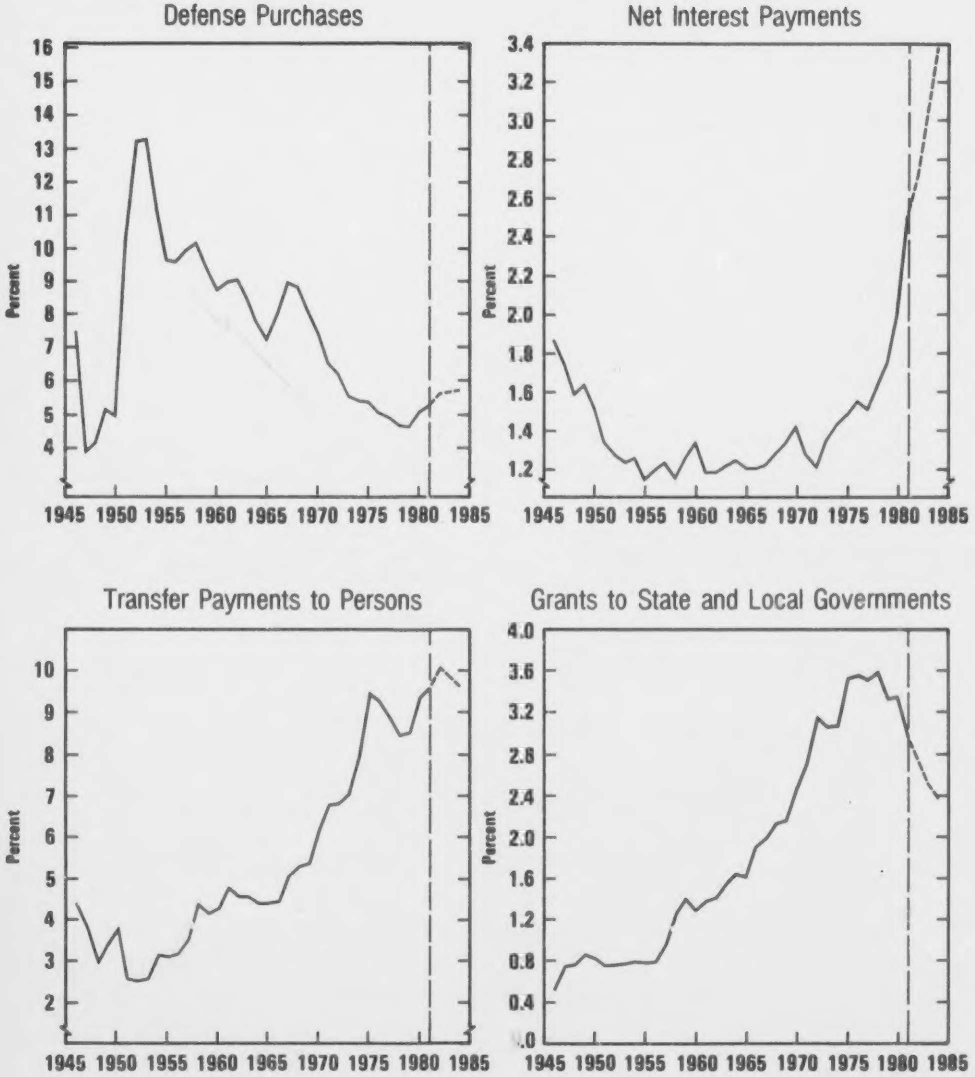
Aggregate Measures of Fiscal Policy

The federal deficits recorded in recent years suggest that the budget has been stimulative. On a high employment basis--which attempts to abstract from the effects of a slack economy on the deficit--the budget has shown little change in most years. CBO projections of year-to-year changes in the high-employment budget indicate that fiscal policy will become increasingly stimulative this year and next year (see Table 7). However, when the projected changes in the high-employment budget in fiscal years 1982-1983 are compared with potential GNP in those years, the combined 1982-1983 stimulus does not appear to match the maximum stimulus encountered during the Vietnam War buildup in fiscal years 1966 and 1967.

There are reasons, though, why the high-employment budget may not be a good measure of fiscal stimulus at the present time. Among other things, it does not compensate for the changes in the composition of federal spending and in the tax structure described above. Moreover, to the extent that those budget changes encourage

Figure 7.

Federal Expenditure Categories as a Percentage of GNP



NOTE: Broken line indicates projections.

SOURCES: U.S. Department of Commerce, Bureau of Economic Analysis; Congressional Budget Office.

TABLE 7. ALTERNATIVE MEASURES OF FISCAL STIMULUS, ASSUMING NO POLICY CHANGES (By fiscal years, in billions of dollars, NIA basis)

	FY 1981	FY 1982 a/	FY 1983 a/
Federal Deficit (-)	-54.4	-103.0	-134.0
Hign-Employment Budget			
Deficit (-)	-0.3	-5.7	-43.2
Change in deficit	16.4	-5.4	-37.5
Deficit as a percent of potential GNP	-0.0	-0.2	-1.2
Expenditure Increases			
Measured at high employment	85.8	67.3	71.2
Due to changes in economic slack b/	4.6	8.9	-2.2
Total	90.4	76.2	69.0
Receipt Increases			
Measured at high employment	102.2	61.9	33.7
Due to changes in economic slack b/	-15.7	-34.4	4.3
Total	86.5	27.5	38.0
Addendum a/c/			
Receipts impact of 1981 tax act on:			
Personal taxes	-0.0	-27.5	-73.1
Corporate taxes	-2.8	-9.1	-18.0
Receipts impact of:			
Personal income tax bracket creep	14	30	50
Social Security tax legislation d/	10.8	2.0	5.9

SOURCES: U.S. Department of Commerce, Bureau of Economic Analysis; Congressional Budget Office.

a/ CBO estimates.

b/ Calculated as the change in actual or projected expenditures (or receipts) minus the change in expenditures (or receipts) measured at high employment. For example, if real growth is less than potential growth, expenditures will increase relative to high employment expenditures, and receipts will fall relative to high-employment receipts.

c/ These estimates are the changes in yearly receipts, measured relative to a baseline, that are due to inflation or to tax law changes. In contrast, the other entries in the table reflect the additional effects of real growth and the level of economic activity.

d/ The fiscal year 1981 and 1982 figures reflect only the impact of the Social Security tax changes occurring in those years. The fiscal year 1983 estimate, however, incorporates both the fiscal year 1982 and 1983 tax law changes.

saving and investment, the high-employment budget may exaggerate the inflationary potential of the projected fiscal stimulus.

The Unified Budget Deficit: Fiscal Years 1981-1983. The budget deficit for the fiscal year ending September 30, 1981, totaled $57.9 billion, down slightly from the $59.6 billion deficit recorded for the previous year. Receipts rose to a level of $602.6 billion--an increase of $82.6 billion--concentrated in higher individual, social insurance, and excise taxes. Net corporate tax collections declined somewhat. Outlays increased 14 percent to a level of $660.5 billion. CBO budget estimates show sharply rising deficits in coming years if no further action is taken to reduce spending or raise revenues. The economic projections presented in this report, and the budget policies embodied in the continuing resolution and in subsequent appropriations and authorizations, indicate deficits of $109 billion in 1982 and $157 billion in 1983 (see Table 8).

Federal Borrowing. Most federal borrowing from the public reflects the need to finance on-budget deficits. Additional borrowing is required to finance the deficits of off-budget entities such as the Federal Financing Bank and the Postal Service. In fiscal year 1981, off-budget deficits amounted to $21 billion

TABLE 8. UNIFIED BUDGET TOTALS AND ESTIMATES, FISCAL YEARS 1980-1983 (In billions of dollars)

	Actual		CBO Estimate	
	1980	1981	1982	1983
Outlays	579.6	660.5	740	809
Revenues	520.0	602.6	631	652
Deficit	59.6	57.9	109	157

SOURCES: U.S. Office of Management and Budget and Congressional Budget Office.

TABLE 9. BUDGET DEFICITS, OFF-BUDGET DEFICITS, AND FEDERAL BORROWING, FISCAL YEARS 1980-1983 (In billions of dollars)

	1980	1981	1982 a/	1983 a/
Total Federal Financing Requirements	73.8	78.9	129	176
Federal budget deficit	59.6	57.9	109	157
Deficit of off-budget federal entities	14.2	21.0	20	19
Federal Borrowing from the Public	70.5	79.3	129	176
Other Means of Finance	3.3	-0.4	0 b/	0 b/
Memo: Interest on Publicly Held Debt	60.4	78.9	99	123

SOURCE: U.S. Office of Management and Budget.

a/ Congressional Budget Office estimate.

b/ CBO assumption.

(see Table 9). CBO estimates that off-budget financing needs will amount to about $20 billion in 1982 and $19 billion in 1983. Taking into account the projected budget deficits in 1982 and 1983, total federal financing requirements are estimated to be $129 billion and $176 billion, respectively. Interest payments on the publicly held debt are projected to total $99 billion in fiscal year 1982 and $123 billion in 1983.

MONETARY POLICY

A principal objective of Federal Reserve policy over the last several years has been to slow inflation through a gradual reduction in the rate of growth of the monetary aggregates. Although interpretation of money aggregate growth has been complicated by changing definitions, it appears that the effort to reduce money growth has met with mixed success (see Table 10). M2, a relatively broad aggregate that includes balances held for investment as well as for transactions purposes, has accelerated somewhat since 1978. However, the growth of M1B--a narrower aggregate containing transactions balances exclusively--has declined.

Many economists believe that the growth of M1B is more relevant than M2 to nominal GNP growth because M1B consists only of balances held for financing market transactions, whereas M2 consists heavily of funds held as financial investments. Policy-induced changes in M2 are therefore less likely to be closely correlated with changes in GNP, and some tests confirm that the

TABLE 10. MONEY GROWTH RATES, 1978-1981 (Percent change, fourth quarter to fourth quarter)

	M1B	M2
1978	8.2	8.3
1979	7.5	8.8
1980	7.3	9.6
1981	5.0 (2.1)	9.5

NOTE: M1B consists of currency in circulation plus checkable deposits at commercial banks and thrift institutions. The figure in parentheses for 1981 is the growth rate of M1B adjusted for inflows from M2 resulting from nationwide introduction of NOW accounts on January 1. M2 includes M1B plus savings and small time deposits at commercial banks and thrift institutions plus money market mutual funds, overnight repurchase agreements, and certain overnight Eurodollars. The definitions that were in use before 1980 were slightly different; they have been revised since then to take account of changing conditions in money markets. The figures for all years shown in the table, however, are based on the new definitions.

SOURCE: Federal Reserve System, Board of Governors.

statistical relationship between M2 and GNP is weaker than that between M1B and GNP. 11/

From this perspective, the reduced rates of M1B growth suggest that monetary policy became increasingly restrictive in the last few years. The same conclusion is suggested by the rising trend of interest rates, which indicates a slowdown in the growth of credit supplied relative to demand. Given the reduction in inflation, the rising trend of nominal interest rates after the middle of 1980 was translated into sharp increases in real rates of interest, as discussed later in this chapter. Perhaps the most remarkable credit market development in recent years has been the dramatic rise in long-term real rates of interest. In view of the detrimental effects of rising real rates on residential and business investment, and on state and local government spending, it is not surprising that real economic growth has been weak.

Monetary Policy and Credit Markets in 1981

The growth of M1B was below the Federal Reserve's target range throughout 1981, as Figure 8 shows. 12/ More important, as the discussion below will emphasize, M1B was below its target at the end of the year despite a surge in December. M2, by contrast, grew at rates at or above the target range throughout the year.

The behavior of deposit flows and other components of the monetary aggregates is shown in Table 11. Although demand deposits at commercial banks declined, all checkable deposits at banks and thrift institutions (the principal component of M1B) increased

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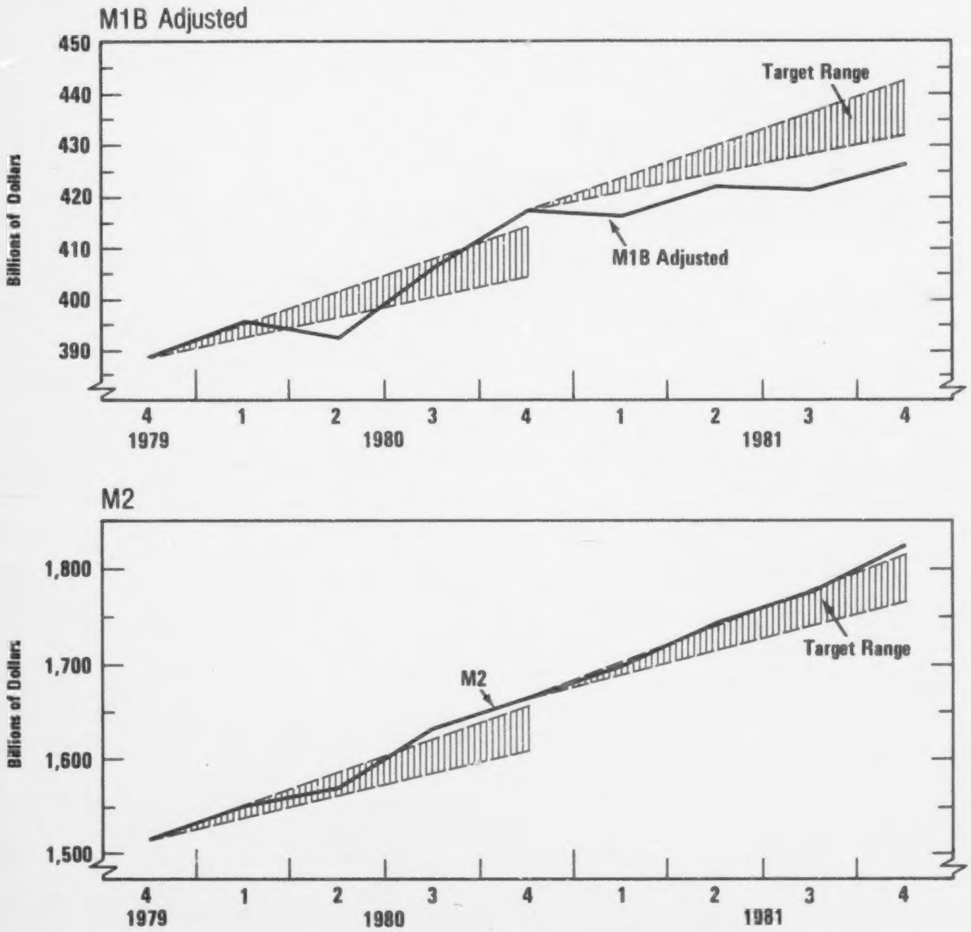
11/ In a different spirit, it has been argued that M2 may be no less effective than M1B as an instrument for controlling GNP, and that the fact that M2 consists largely of investment funds paying high rates of return implies that relatively rapid growth in M2 may still be consistent with implicitly targeted GNP growth rates. See David E. Lindsey, "Nonborrowed Reserve Targetting and Monetary Control," paper presented at a conference on "Improving Money Stock Control: Problems, Solutions, and Consequences," St. Louis, Mo., October 31, 1981.

12/ The figures for M1B have been adjusted by the Federal Reserve to discount for inflows of funds into NOW (Negotiable Order of Withdrawal) accounts after the introduction of these accounts on a nationwide basis in early 1981.

Figure 8.

Monetary Aggregates: Target Ranges and Actual Levels



NOTE: **M1B Adjusted:** Averages of daily figures for (1) demand deposits at all commercial banks other than those due to domestic banks, the U.S. government, and foreign banks and official institutions less cash items in the process of collection and Federal Reserve float; (2) currency outside the Treasury, Federal Reserve Banks, and the vaults of commercial banks; (3) travelers checks of nonbank issuers; and (4) negotiable order of withdrawal (NOW) and automatic transfer service (ATS) accounts at banks and thrift institutions, credit union share draft accounts, and demand deposits at mutual savings banks. Adjusted by the Federal Reserve Board for major shifts into NOW accounts from interest-earning assets included in M2.

M2: M1B plus savings and small-denomination time deposits at all depository institutions, overnight repurchase agreements at commercial banks, overnight Eurodollars held by U.S. residents other than banks at Caribbean branches of member banks, and money market mutual fund shares.

SOURCE: Federal Reserve System, Board of Governors.

TABLE 11. DEPOSIT FLOWS AT COMMERCIAL BANKS AND THRIFT INSTITUTIONS AND CHANGES IN MONEY MARKET FUNDS, 1981 (In billions of dollars, seasonally adjusted)

		Savings and Small Time Deposits		
	Checkable Deposits a/	Commercial Banks	Thrift Institutions	Money Market Mutual Funds b/
1981:1	3.3	7.1	5.9	16.2
1981:2	6.9	5.1	-0.6	26.4
1981:3	-1.2	8.3	-4.9	26.3
1981:4	4.7	13.0	3.0	30.2

SOURCE: Federal Reserve System, Board of Governors.

a/ At all depository institutions.

b/ Not seasonally adjusted.

throughout most of 1981. Savings and small-denomination time deposits at commercial banks and thrift institutions, which are part of M2, grew throughout the year, though the growth at thrift institutions was quite weak. Money market mutual funds, finally, another component of M2, grew strongly throughout the year.

Interest rates, after recovering from the severe downturn of 1980, reached levels at or near their historical peaks in early 1981. Short-term rates began to decline significantly in late summer as economic activity slowed, though they turned up again late in the year. The reason short-term rates rebounded is not clear. Perhaps the Federal Reserve attempted to take corrective actions, or market participants anticipated a further tightening of monetary policy, in the wake of the unexpected surge in money growth late in the year.

Long-term rates, unlike short rates, continued to rise until the recession was well underway, reaching new record levels in September. Moreover, long-term rates seemed hesitant to decline thereafter, despite the recession. Just why long-term rates have remained at such high levels is a matter of dispute.

- o Some analysts hold that long-term rates remained high because of the persistence of high inflationary expectations. This could be explained by two factors. First, inflationary expectations adjust slowly to actual changes in inflation. Second, investors may not believe that the reduction in the rate of inflation in 1981 will be permanent. In support of this second factor, it has been argued that prospective large and rising budget deficits could ultimately induce the Federal Reserve to help finance those deficits through an accommodative increase in the rate of money growth, an outcome that would raise the rate of inflation higher than otherwise. 13/

- o Some economists believe that the increased volatility of interest rates since the Federal Reserve changed its operating procedures to focus greater attention on reserve targets (October 1979) has added large uncertainty premiums to long-term rates.

Monetary Policy Indicators in 1981

The growth of money aggregates and the behavior of short-term interest rates are the most closely-watched indicators of monetary policy. In either case, however, inferences concerning the effect of monetary policy on economic activity are sometimes difficult to draw.

Money Growth and the Role of Velocity. The economic impact of a policy-induced reduction in the rate of money growth can be cushioned by increases in the velocity of money--the ratio of GNP to the money supply. 14/ Some increase in velocity can be expected to occur when policy changes induce slower money growth since a reduced supply of money and credit raises interest rates, inducing households and firms to conserve on money balances. In order that the Federal Reserve may plan its monetary growth targets in light

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13/ Interest rates on long-term obligations may rise in anticipation of upward interest rate pressures, such as those from large federal deficits, since prospective future increases in interest rates make such obligations less attractive now.

14/ Velocity represents the number of times an average dollar in the money supply is used to finance transactions over a given period of time.

of their likely impact on GNP, however, the timing and magnitude of this velocity increase must be predictable.

The velocity of M1B has behaved erratically during the past several years, often increasing rapidly as households and firms adopted new techniques of cash management. While it seems clear that these increases came in response to the high levels of nominal interest rates, the magnitude and timing of the changes in velocity have been difficult to anticipate. As a result, it has been hard for the Federal Reserve and for outside observers to judge in advance what rates of money growth are appropriate to achieve a given rate of GNP growth. 15/

The range of growth rates for M1B targeted by the Federal Reserve for 1981, however, clearly represented a tight policy in the sense that they permitted very little growth in real GNP. Indeed, if M1B had been permitted to grow at rates near the top of its target range, and if, at the same time, velocity growth had been high by historical standards (at the top of the range observed during the previous ten years), the expected rate of inflation would have permitted only moderate real GNP growth--certainly no more than 3 percent in 1981. In fact, however, growth in M1B-adjusted in 1981 was below the Federal Reserve's target range. Even the very sharp acceleration in velocity growth--to 7.0 percent--was insufficient to keep real growth over the year from being sluggish.

15/ Some progress has recently been made in predicting the behavior of M1B velocity on the basis of short- and medium-term interest rates. These results have in turn been used by some observers to argue that M1B growth in 1981 was less restrictive than otherwise. See Thomas D. Simpson and Richard D. Porter, "Some Issues Involving the Definition and Interpretation of the Monetary Aggregates," in Controlling the Monetary Aggregates III, Federal Reserve Bank of Boston Conference Series No. 23 (1980); and David E. Lindsey, "Nonborrowed Reserve Targeting and Monetary Control," paper presented at a conference on "Improving Money Stock Control: Problems, Solutions, and Consequences," St. Louis, Missouri, October 31, 1981.

Money Growth Rates and Inflation. If inflation had fallen sharply in 1981, however, rates of monetary growth like those targeted by the Federal Reserve would not have braked the growth in real output as severely. Indeed, the rationale for a tight monetary policy is that it should cause inflation to fall. Why, then, did inflation not fall more than it did in the face of the slow monetary growth of 1981?

Monetary restraint may influence prices through two channels. One is by reducing total spending and, with it, pressures for increases in wages and prices. The other channel is by changing people's inflationary expectations: if people expect that money growth rates will be low and that reductions in inflation will result, they may alter their behavior in ways that help slow inflation, such as reducing wage and price demands and stepping up rates of saving and productive investment.

Inflation does not appear to be strongly sensitive to a reduction in aggregate demand, and the effects that do occur through this channel probably come only after a lag of several quarters; the more immediate effects are on real GNP growth instead. The channel of expectations, for its part, is still poorly understood. Economists have yet to agree on how expectations about future inflation are formed, or on the part played in their formation by expected money growth (or for that matter, on how expectations of future money growth are formed).

Real Interest Rates in 1981

An alternative means of appraising monetary policy is to look at the performance of real interest rates--that is, nominal interest rates minus some measure of expected inflation. High real interest rates represent a tight monetary policy because they restrain spending by households, business firms, and state and local governments. It is difficult, however, to estimate real rates because expected rates of inflation are not observable.

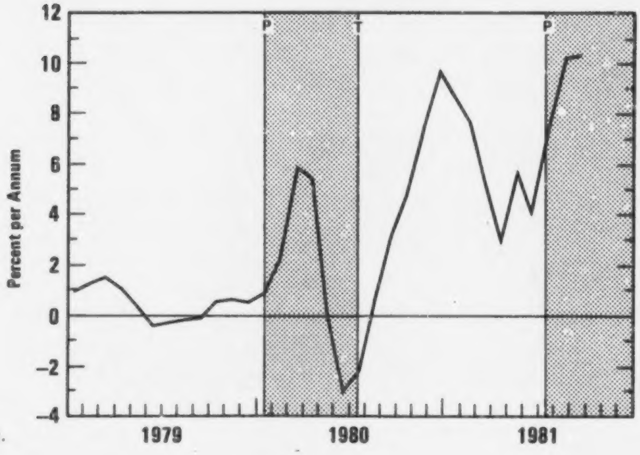
One way of approximating the behavior of real interest rates is by using ex post real rates--nominal rates minus the actual rate of inflation subsequently observed. 16/ This estimate represents real rates accurately if participants in financial markets anticipate inflation correctly. Ex post real rates on three-month Treasury bills are shown in Figure 9. The rates reached unprecedented highs of over 8 percent early in the year. They have declined somewhat since then, but have remained at very high levels--levels approached during the recent past only during the early stages of the 1980 recession. 17/

16/ This approach was used recently by Professor Alan S. Blinder of Princeton University in testimony before the Subcommittee on Domestic Monetary Policy of the House Banking Committee, July 28, 1981. His remarks are reprinted as "Monetarism is Obsolete," Challenge (September-October 1981), pp. 35-41. Some economists dispute the contention that effective real interest rates have recently been high. They argue that since interest is tax deductible, including the part representing an expected inflation premium, real after-tax interest rates have been lower than they appear when tax effects are not taken into account.

17/ Some analysts also draw inferences about the behavior of real interest rates by watching the performance of the ratio of corporate earnings or dividends to the value of corporate stock. Short-term shifts in this ratio reflect movements in the real yield on corporate capital, which in turn may be related to shifts in the real interest rate. The recent behavior of this variable weakens the inference that real interest rates have recently been high: earnings/price ratios reached extremely high levels by historical standards in early 1980, but have declined sharply since then. The performance of corporate stock prices and earnings, however, have become quite difficult to interpret with confidence because of the complicated impacts of inflation, nominal interest rates, and the tax structure. For a discussion of these issues, see Marcelle Arak, "Inflation and Stock Values: Is Our Tax Structure the Villain?" Federal Reserve Bank of New York Quarterly Review (Winter 1980-1981), pp. 3-31. For a discussion of the interaction of monetary policy and stock prices in the absence of such complications, see James Tobin, "Monetary Policy in 1974 and Beyond," Brookings Papers on Economic Activity (1974), vol. 1, pp. 219-37.

Figure 9.

Estimate of Real Interest Rate for 3-Month Treasury Bills (New Issues)



NOTE:
See text for information about calculation of real interest rates. P and T lines represent business cycle peak and trough dates.

SOURCE: Congressional Budget Office.

The Monetary Policy Outlook for 1982

The Federal Reserve has announced that M1B will be known in the future simply as "M1," and is due to announce its 1982 target ranges for this aggregate and for M2 during February. While there is as yet no firm evidence on what these ranges will be, the Federal Reserve's previously announced tentative ranges are: for M1, 2.5 to 5.5 percent; and for M2, 6 to 9 percent, the same as in 1981.

Although it is possible that these targets may allow significant real economic growth during 1982, the prospects for velocity growth and inflation suggest that the money supply will be an important factor in restraining the recovery in the second half of 1982 and in 1983. CBO expects velocity to grow only moderately, partly because interest rates are expected to be lower than last year and partly because velocity growth is usually sluggish during recessions. Inflation, for its part, is expected to be lower than in 1981 but to remain at significant levels, due mainly to continued wage momentum (see Chapter IV). To illustrate the possibilities, if 1982 M1 growth is 4.0 percent (at the middle of the presumed target range) and if velocity growth is 5.6 percent (not as high as in 1981, but historically high), and if the GNP deflator grows at 7.3 percent (at the middle of the range forecast by CBO), then real growth from the fourth quarter of 1981 to the fourth quarter of 1982 could be no more than a relatively weak 2.3 percent.

Any of these factors could easily turn out to be more or less favorable to growth. The difficulty of making predictions is illustrated by the behavior of M1 in the last few months, when a strong and unexpected surge put that aggregate above the level of the lower target range for the fourth quarter of 1982. If this unexpected surge does not reverse itself, the Federal Reserve may conclude that the jump in the money stock represents an inconsequential shift in the public's money holding habits and raise its targets accordingly. Alternatively, the Federal Reserve might conclude that it needs to reverse the recent increase in money. In the latter case, the economy may face extraordinarily high interest rates during the remainder of the year as monetary policy endeavors to hold the money supply within the present target range.

The Federal Reserve will also announce soon the 1981 level against which money growth in 1982 will be measured. The choice may be either the actual level during the final quarter of 1981 or a level within the 1981 target range. If it follows past practice, the Federal Reserve will choose the actual 1981 level. Since that level was significantly below the target range, this decision would mean that the longer-term money growth rate between 1979 and 1982 could be quite low indeed. Even if the authorities allowed M1 to grow at the top of the presumed target range for 1982, as has been assumed in the CBO forecast, the average annual growth rate for M1 would be only 3.8 percent between 1980 and 1982 and 4.9 percent between 1979 and 1982 (not including growth that occurred in 1981 because of the nationwide introduction of NOW accounts). If M1 growth is kept at the bottom of its target range in 1982 as it was in 1981, these growth rates would be lower still. Any of those possibilities implies a continuation of the sluggish longer-term pattern for economic growth that was described at the beginning of this section, unless velocity accelerates more than seems likely.

The outlook for velocity growth in 1982 is, of course, uncertain. CBO's forecast calls for interest rates below their record 1981 levels, which suggests that the velocity of M1 may not grow as strongly as in 1981. There is evidence, however, that rapid increases in velocity may occur independently as a result of new account sweeping techniques developed by money managers in response to past increases in interest rates. If this happened, the economic outlook could be much brighter. The possibility underscores the hazards of economic forecasting in the present environment.

CONCLUSION

Given policies currently in place, the next several years promise a combination of restrictive monetary policy, designed to shrink inflation, and a stimulative fiscal policy intended to generate rapid economic growth. The economic effects are difficult to predict, especially given the large magnitudes of the policy changes. The prolonged large deficits implied by these policies are the most worrisome aspect. Some economists foresee a clash between monetary and fiscal policy that will have serious adverse effects on economic activity. Such an outcome would be made less likely by further spending cuts and tax increases to permit smaller deficits. Moreover, smaller deficits would reduce the danger of crowding out private investment and would have favorable effects on longer-run economic growth. Finally, tight credit conditions tend to have very uneven effects, which are particularly adverse for housing, autos, and other durable goods and the investment sectors. If smaller deficits permit easier credit conditions, the adverse structural effects of monetary policy would be reduced.

CHAPTER III. THE SHORT-RANGE FORECAST AND LONG-RUN ECONOMIC ASSUMPTIONS

This chapter presents CBO's short-range forecast for 1982 and 1983, together with its longer-range economic assumptions and budget projections for 1984-1986.

In brief, the CBO forecast assumes that the current recession will continue through the first quarter of 1982. A cyclical upswing is projected for the second half of the year, carrying forward into 1983. The forecast anticipates a substantial reduction in the rate of inflation, because of lower food and fuel price increases and because of smaller wage settlements resulting from smaller cost-of-living increases and high unemployment. Depressed levels of real activity and lower inflation are expected to cause interest rates to decline somewhat from current levels during the next few months. The Federal Reserve's announced money supply targets are not expected to be a major constraint on the economy until economic growth resumes in the second half of 1982. As the recovery progresses, however, tight monetary policy is expected to put upward pressure on real interest rates, thereby restraining growth in real GNP below the average cyclical recovery despite the very large fiscal stimulus implicit in the federal budget projections.

THE SHORT-RANGE FORECAST

Economic Policy Assumptions. The short-range forecast is based on the following fiscal and monetary policy assumptions:

- o Total federal government outlays are assumed to be $740 billion in fiscal year 1982 and $809 billion in fiscal year 1983. 1/

- o The CBO baseline for federal government revenues incorporates the provisions of the Economic Recovery Tax Act

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1/ For further details see Congressional Budget Office, Baseline Budget Projections for Fiscal Years 1983-1987 (February 1982), Chapter II.

of 1981. Personal tax rates are cut 5 percent in October 1981, 10 percent in July 1982, and 10 percent in July 1983. Corporate taxes reflect the "15-10-5-3" Accelerated Cost Recovery System (ACRS). No further tax law changes are assumed in the baseline.

- The growth of the monetary aggregates is assumed to be close to the upper end of the Federal Reserve target ranges for 1982: about 5.5 percent growth for M1, and 9 percent growth for M2.

Commodity Price Assumptions. The critical price assumptions are as follows (percent changes between fourth quarters):

- Food prices increase by 7.1 percent in 1982 and 6.7 percent in 1983. These increases are somewhat below the overall rate of inflation.

- World oil prices remain flat through 1982, and then increase at a rate slightly below the overall rate of inflation (6.5 percent) for 1983. Domestic oil prices increase slightly faster, so as to close the current gap between domestic and foreign prices for equivalent crudes.

- Natural gas prices are assumed to be decontrolled on the schedule currently specified in the Natural Gas Policy Act.

- The foreign exchange value of the dollar falls by 0.3 percent in 1982 and rises by 0.4 percent in 1983.

The Forecast

The CBO baseline policy forecast presented in Table 12 suggests that economic growth will accelerate in the second half of this year and that inflation will continue to moderate:

- Constant-dollar GNP is projected to grow in the range of 1.8 to 3.8 percent from the fourth quarter of 1981 to the fourth quarter of 1982. In 1983, growth is expected to be in the 2.9 to 4.9 percent range.

- Inflation, as measured by the GNP deflator, is expected to decelerate substantially, from 8.6 percent during 1981 to a range of 6.2 to 8.2 percent during 1982, and a range of 5.9 to 7.9 percent during 1983. The CPI, which will benefit from declining nominal mortgage interest rates during 1982, is expected to increase by 5.4 to 7.4 percent from the fourth quarter of 1981 to the fourth quarter of 1982, and by 6.2 to 8.2 percent during 1983.

TABLE 12. THE CBO FORECAST FOR 1982 AND 1983

	Rates of Change (percent)			
	Actual		Forecast	
	1979:4 to 1980:4	1980:4 to 1981:4	1981:4 to 1982:4	1982:4 to 1983:4
GNP	9.4	9.3	8.3 to 12.3	9.1 to 13.1
Real GNP	-0.3	0.7	1.8 to 3.8	2.9 to 4.9
Implicit Price Deflator	9.8	8.6	6.2 to 8.2	5.9 to 7.9
Consumer Price Index	12.5	9.5	5.4 to 7.4	6.2 to 8.2
	Levels (percent)			
	Actual		Forecast	
	1980:4	1981:4	1982:4	1983:4
Unemployment Rate	7.5	8.4	8.2 to 9.2	7.1 to 8.1
3-Month Treasury Bill Rate	13.6	11.8	11.8 to 13.8	12.5 to 14.5
Mortgage Rate a/	13.0	16.0	13.1 to 15.1	12.8 to 14.8

a/ Effective rate on mortgages by all major lenders for purchase of newly built homes.

- The unemployment rate is projected to increase during the first half of 1982 and to decline gradually thereafter, averaging about 8.9 percent in calendar year 1982 and about one percentage point less in 1983.

- The three-month Treasury Bill rate is expected to decline further early in 1982, but to rise again as the recovery gets underway; for calendar years 1982 and 1983, the Treasury Bill rate is projected to average about 12 and 13 percent, respectively.

The Recovery

Although the economy is likely to remain weak in the first half of 1982, economic growth is expected to pick up substantially in the last half of the year. The increase in real disposable income as a result of the tax cuts is expected to lead to higher consumer expenditures, particularly for autos and other cyclically sensitive durable goods. The housing market, too, is expected to benefit from the increase in disposable income and from the projected decline in mortgage interest rates. The improved growth prospects for these two expenditure categories account for more than two-thirds of the growth of final sales during the first year of recovery. Defense spending is also expected to be a factor in the recovery, but business fixed investment is not projected to make a major contribution until 1983, because of low capacity utilization rates and high real interest rates.

Three factors account for the recovery: the increased fiscal stimulus resulting largely from the tax cuts; the moderation of interest rates resulting largely from the recession; and the decline in inflation.

Fiscal Policy. The fiscal policy assumptions underlying the CBO forecast imply a very large stimulus to the economy, because the personal and corporate tax cuts specified in the Economic Recovery Tax Act are not fully matched by corresponding cuts in spending (see Chapter II). The period from 1981 to 1983 contains three large personal tax cuts, which by the end of 1983 will increase spendable consumer income by about $100 billion at an annual rate. The second round of the personal income tax rate reductions in July 1982 is expected to provide a considerable boost to consumer spending during the second half of this year. At the same time, corporate profits taxes will be reduced by about $16 billion by 1983 because of the accelerated capital cost recovery provisions of the tax act.

Interest Rates. Interest rates in the first half of 1982 are expected to be significantly lower than the high rates experienced in 1981. This is largely the result of the recession, which has reduced the demand for money to finance economic activity. The Federal Reserve's policy of stringent money growth, therefore, will not put upward pressure on interest rates in the near term. Once the recovery is underway, however, interest rates will begin to rise from their recession lows.

Inflation. Declining inflation is also expected to contribute to the recovery by encouraging easier credit conditions and growth in real disposable income. CBO anticipates that the assumed lower increases in food and fuel prices will raise significantly the disposable income of both consumers and corporations, thereby aiding the recovery in final demands.

Factors Limiting the Recovery

If prospective financial market conditions were similar to those that prevailed in the past, the large fiscal stimulus implied by the policy assumptions would cause very rapid real growth, substantially above a normal cyclical recovery. Central to the CBO forecast, however, is the belief that the assumed restraint on money growth, combined with strong federal government credit demands arising largely from projected federal deficits, will limit the decline in interest rates, despite lower expected inflation. Continued high real interest rates in the CBO forecast constrain the growth of housing, business investment, and consumer spending sufficiently to produce a below-normal recovery in real economic activity.

Housing. Mortgage rates, in particular, are expected to decline from recent record levels but to remain very high by historical standards. Mortgage payments remain large relative to incomes over the forecast period, effectively limiting the number of people who qualify for new mortgages. Thus, CBO expects the recovery in housing to be modest; housing starts never exceed an annual rate of 1.6 million units for any quarter in the forecast period.

Business Investment. The high levels of corporate bond rates forecast by CBO also offset, in part at least, the enhanced incentives for investment provided by the capital cost recovery provisions of the Economic Recovery Tax Act. In the CBO forecast, long-term corporate bond rates bottom out in 1982 at about 12 percent, which is very high by historical standards, and rise gradually through 1983. The near-term outlook for investment also depends on whether businesses can reasonably anticipate substantially higher rates of capacity utilization in the near future. The 1982 and 1983 personal tax cuts, combined with substantial federal government spending increases, are expected to boost final demands and output, an outcome that serves to brighten the business investment outlook. However, capacity utilization is not projected to reach high levels before the end of 1983 and, as a result, the growth in investment is not expected to be as large as in past cyclical recovery periods.

Consumer Spending. The prospective cuts in personal income taxes will boost real growth in 1982 and 1983. However, the increase in consumer spending may be somewhat weaker than that of past experience. To begin with, a substantial part of the planned reduction in tax rates will be offset by bracket creep induced by inflation and real income growth. Second, the reduction in marginal tax rates, and their concentration in the higher brackets, may induce more saving than has been the experience with past tax cuts. Finally, high interest rates will serve to dampen the growth of household expenditures and encourage savings. Accordingly, the CBO forecast suggests that the personal income tax cuts will lead to smaller increases in consumer expenditures in 1982 and 1983 than would have been the case otherwise.

The Outlook for Inflation

The prospects for continued improvement on the inflation front look good. Most forecasters are predicting a significant reduction in inflation in 1982, driven partly by recent declines in commodity prices and the expectation of continued favorable price developments in food and energy through the remainder of the year. World feed grain harvests were excellent in 1981, and depleted feed grain stocks have been rebuilt. Thus, even if 1982 harvests are somewhat below 1981 levels, the world could probably absorb that reduction without major increases in feed grain prices. The impact of current low feed grain prices on retail meat prices is likely to be felt through the end of 1982 at least. World oil prices are expected to hold at current levels through the end of 1982, and then to increase at a rate about equal to the rate of inflation.

These price expectations appear to be consistent with Saudi Arabia's current intentions and are supported by the current low levels of world oil demand. Oil demand is expected to remain low through the forecast period despite an expected moderate recovery in economic activity in Europe and the United States, because of continuing downward adjustments in the quantity of oil demanded in response to the 1979 and 1980 oil price hikes.

In addition to the good news on commodity prices, it seems likely that labor compensation will grow less rapidly in 1982 than in 1981. Increases in Social Security taxes will add less to labor costs than in 1981, and there is no scheduled increase in the minimum wage in 1982. High unemployment should also encourage lower wage increases. The unemployment rate in the CBO forecast remains above 8 percent throughout 1982, declining only gradually to about 7-1/2 percent over the course of 1983. Moreover, several of the major collective bargaining agreements being renegotiated in 1982 are likely to show a significant slowing in wage gains. Overall, CBO expects the growth of compensation per hour to be reduced by about two percentage points between 1981 and 1983.

UNCERTAINTY IN THE FORECAST

This forecast is subject to an unusual degree of uncertainty. If inflation declines more quickly than expected or if credit conditions are less restrictive than projected, the recovery may be more vigorous. It is also possible that the supply effects of the tax cuts will be larger than assumed by CBO. But most forecasters agree that the downside risks are greater.

Downside Risks. Three factors seem to hold substantial chance for weaker economic growth than in the CBO forecast.

- The Federal Reserve may pursue a more restrictive policy than assumed by CBO, thereby more severely limiting the recovery in economic activity.

- Interest rates may be more sensitive to projected deficits than assumed by CBO. Historical experience is not a very useful guide to the effects of the current unique combination of monetary restraint and fiscal stimulus, especially in view of the magnitudes of the policy changes themselves. Although the CBO forecast shows very high interest rates, particularly in real terms, these rates may not be high enough to induce people to finance the enormous federal credit demands implied by the CBO deficit forecasts.

- There is also considerable risk that inflation will be higher than projected, either because wage settlements prove less responsive to the recession, or because commodity prices, particularly food or fuel, increase more than is now expected. Given Federal Reserve policies, higher inflation would likely result in tighter credit conditions. And, of course, a rapid rise in food or fuel prices would have adverse effects on real income growth and final demands.

If interest rates are driven much higher than those forecast--either because of the deficits or because monetary policy is tighter than assumed by CBO--then the outlook for investment, auto sales, and housing could be much more pessimistic than indicated by the CBO forecast. Even if short-run overall growth were not much weaker than in the CBO forecast, the lower share of investment in GNP would worsen the long-run outlook for growth. It is perhaps more likely, however, that the collision between an expansive fiscal policy and a tight monetary policy would take the form of continued instability both in interest rates and in the level of economic activity. A sharp rise in interest rates might occur early in the recovery, either because credit markets are very sensitive to projected deficits or because the economic recovery is stronger than expected initially. Such a spike in interest rates might result in an early end to the recovery and a new recession.

This scenario of economic instability and overall slow growth is not the CBO baseline forecast, but CBO believes that it should be seriously considered as a significant risk given present fiscal and monetary policies.

FIVE-YEAR ECONOMIC AND BUDGET PROJECTIONS

CBO's economic assumptions and budget estimates for the years 1982 to 1987 are shown in Table 13. The longer-range economic assumptions for the period 1984 to 1987 are not forecasts of probable economic conditions but are, instead, projections that assume what appears to be an attainable improvement in economic conditions. The critical issues leading to uncertainty in the two-year forecast have been laid out above. Those same uncertain factors, along with a number of others, plague the longer-term economic outlook.

TABLE 13. BASELINE ECONOMIC ASSUMPTIONS AND BUDGET ESTIMATES

Variable	1981	1982	1983	1984	1985	1986	1987
	Economic Assumptions, Calendar Years						
GNP (billions of current dollars)	2,922	3,140	3,515	3,882	4,259	4,659	5,083
Real GNP (percent change, year over year)	1.9	-0.1	4.4	3.6	3.5	3.5	3.5
GNP Implicit Price Deflator (percent change, year over year)	9.1	7.5	7.3	6.6	6.0	5.7	5.4
CPI (percent change, year over year)	10.3	7.5	6.9	6.9	6.4	6.0	5.7
Unemployment Rate (percent, annual average)	7.6	8.9	8.0	7.4	7.2	6.9	6.7
3-Month Treasury Bill Rate (percent, annual average)	14.0	12.0	13.2	11.3	9.4	8.7	8.1
	Budget Estimates, Fiscal Years						
Revenues	603	631	652	701	763	818	882
Outlays	660	740	809	889	971	1,052	1,130
Deficit	58	109	157	188	208	234	248

NOTE: CBO's economic projections for the 1984-1987 period are not forecasts of probable economic conditions. Instead, they are assumptions that point to moderate noncyclical growth with sustained progress in reducing inflation and unemployment. It is uncertain whether the economic progress assumed in these projections can be attained with the prospective trend of money growth and without the enactment of further spending cuts or tax increases to reduce the deficit.

- The prolonged period of slack in economic activity that began in 1979 suggests that there is substantial potential for economic growth over the course of the next several years. Pent-up demands for housing, household durables, automobiles, and business plant and equipment are apparently substantial. Fiscal policy has turned decisively expansionary, and, absent significant budget changes in the near term, will remain highly stimulative as a consequence of the tax cuts enacted in August 1981 and the increased military buildup. Despite these forces, it is highly uncertain whether economic growth will be rapid over the medium term. To a considerable extent, the outcome will be determined by the future course of monetary policy and the success or failure in winding down inflation. If rates of inflation remain high and monetary policy remains staunchly anti-inflationary, little room will be left for any significant expansion of real economic activity. The potential of a clash between monetary and fiscal policy now appears to be nearly as much a problem in the medium term as it is in the short term.

- A rebound in productivity growth is crucial to the support of sustained rapid increases in real economic activity, all the more so in view of prospective declines in future rates of labor force growth. Because the reasons for the slump in the trend rate of productivity growth are not well understood, it is extremely difficult to determine whether and to what extent productivity growth will rebound in future years.

- Although it is easier to make reasonable estimates about the rate of growth of the U.S. population aged 16 years and older over the medium term, it is highly uncertain how the labor-force participation rates of the many subgroups in that population will change over time. Labor-force growth over the next six years is therefore subject to considerable uncertainty.

- Although the food and fuel price assumptions used in the two-year forecast are potentially subject to substantial margins of error, they are even more uncertain for later years.

The major characteristics of the outyear economic assumptions are as follows:

- For each of the years 1984 through 1987, food and fuel prices are assumed to grow at rates 1 percent faster than the overall price level.

- Because of the assumed absence of price shocks, the assumed moderation of wage increases due to relatively high rates of unemployment, and the assumed further reductions in the growth of unit labor costs stemming from increased productivity gains, inflation slows significantly between 1983 and 1987. Thus, the GNP deflator slows from an annual rate of increase of 7.3 percent in 1983 to 5.4 percent in 1987.

- The labor force is assumed to expand at a slower rate in the 1980s than in the 1970s as new entrants into the working-age population from the "baby boom" era dwindle. The working-age population is assumed to grow at an average rate of 1.0 percent over the 1984 to 1987 period. The civilian labor force is assumed to expand at an average annual rate of 1.7 percent during the same time period.

- Productivity growth is assumed to rebound during the projections period, averaging about 1.7 percent a year from 1984 through 1987.

- Real GNP growth is assumed to advance at an average annual rate of 3.5 percent from 1984 to 1987. With inflation trending downward, growth of nominal GNP is assumed to slow from 11.9 percent in 1983 to 9.1 percent in 1987.

- Because of reduced rates of inflation, the three-month Treasury Bill rate is assumed to decline from an average value of 13.2 percent in 1983 to 8.1 percent in 1987.

Given the baseline economic assumptions and the budget policies described at the beginning of this chapter, the medium-term budget outlook shows annual growth in federal spending averaging 9.4 percent and annual growth in federal revenues averaging 6.5 percent from 1981 to 1987 on a fiscal year basis. Thus, deficits rise during the projections period from $109 billion in fiscal year 1982 to $248 billion in fiscal year 1987. Of course, these estimates are subject to a great deal of uncertainty, in part because of the uncertainty in the economic outlook.

Alternative Estimates. To illustrate the sensitivity of the budget estimates to economic assumptions, CBO has prepared two alternative sets of economic assumptions and budget estimates. The alternative economic assumptions are shown in Table 14.

TABLE 14. ALTERNATIVE ECONOMIC ASSUMPTIONS (By calendar year)

	1982	1983	1984	1985	1986	1987
Gross National Product (GNP)						
Current dollars (percent change, year to year)						
Optimistic alternative	7.7	13.0	11.5	10.7	9.6	9.1
Pessimistic alternative	7.3	11.1	9.8	9.2	8.9	8.5
Constant (1972) dollars (percent change, year to year)						
Optimistic alternative	0.2	5.8	5.1	5.0	4.4	4.0
Pessimistic alternative	-0.3	3.0	2.1	2.0	2.0	2.0
Prices						
GNP deflator (percent change, year to year)						
Optimistic alternative	7.4	6.8	6.0	5.4	5.0	4.9
Pessimistic alternative	7.6	7.9	7.5	7.1	6.7	6.4
Consumer Price Index (percent change, year to year)						
Optimistic alternative	7.5	6.4	6.2	5.7	5.3	5.2
Pessimistic alternative	7.6	7.6	8.0	7.6	7.2	6.9
Unemployment Rate (percent, annual average)						
Optimistic alternative	8.9	7.6	6.6	6.0	5.6	5.6
Pessimistic alternative	8.9	8.5	8.4	8.5	8.5	8.5
Interest Rate (91-day Treasury bills, percent, annual average)						
Optimistic alternative	11.5	10.7	9.4	8.3	7.6	7.4
Pessimistic alternative	13.0	14.3	12.7	10.8	10.1	9.4

TABLE 15. BUDGET PROJECTIONS UNDER ALTERNATIVE ECONOMIC ASSUMPTIONS (By fiscal year, in billions of dollars)

	Projections				
	1983	1984	1985	1986	1987
Revenues					
Optimistic alternative	658	713	786	849	921
Pessimistic alternative	650	695	752	799	852
Outlays					
Optimistic alternative	800	863	932	1,001	1,067
Pessimistic alternative	819	912	1,011	1,115	1,219
Unified Budget Deficit					
Optimistic alternative	142	150	146	152	146
Pessimistic alternative	169	217	259	316	367

The first alternative is an optimistic one, predicated on lower inflation and a strong rebound in productivity growth. The assumption of low inflation permits larger gains in purchasing power and easier credit conditions than in the baseline; this, in turn, permits faster economic growth. Nominal GNP also grows more rapidly than in the baseline. By the end of the projection period, the unemployment rate is stable at 5.6 percent, and the annual rate of increase in the Consumer Price Index is only 5.2 percent.

The second alternative is a pessimistic case, which illustrates the potential risks that the economy faces. In this alternative, inflation is higher and productivity growth is lower than in the baseline. In contrast to the first alternative, higher inflation is associated with an erosion of purchasing power and tighter credit conditions. Compared with the baseline, both real and nominal GNP grow more slowly. The unemployment rate remains at about 8.5 percent through 1987, and the rate of increase in the Consumer Price Index does not begin to come down until after 1984.

The revenues, outlays, and deficits resulting from these alternative economic assumptions are summarized in Table 15. Under the optimistic assumptions, the more rapid growth in GNP leads to higher revenues than in the baseline. Lower unemployment, inflation, and interest rates result in lower outlays. The deficits are therefore considerably smaller than in the baseline--leveling off in the vicinity of $150 billion in 1984 and thereafter. In the pessimistic alternative, exactly the reverse is true. Revenues rise more slowly than in the baseline, and outlays grow more rapidly. By 1987, the deficit has reached $367 billion.

CHAPTER IV. SOME IMPEDIMENTS TO ECONOMIC GROWTH

A difficult transition period is ahead for the economy. The Administration and the Federal Reserve have emphasized slower money growth as a means of reducing inflation. At the same time the Congress has enacted large tax cuts to encourage business investment and economic growth. Whether rapid growth and lower inflation can be achieved simultaneously with these policies is uncertain.

There is little doubt that a restrictive monetary policy maintained for the next several years could slow the growth of nominal GNP. The critical question, however, is the extent to which the current monetary-fiscal policy strategy will slow output growth rather than inflation. Historical experience suggests that it may be very difficult to achieve a substantial reduction in inflation and rapid economic growth simultaneously.

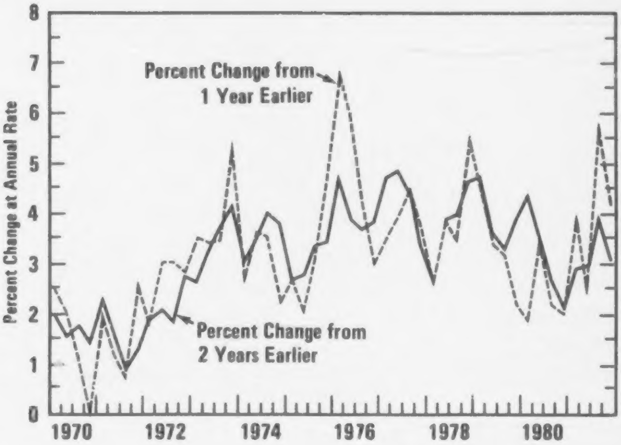
Longer-run economic growth in the current economic environment will depend critically on achieving substantial progress in reducing inflation and increasing investment spending. Two major considerations will be the course of labor costs and capital costs.

- The growth of unit labor costs. There is substantial risk that money wage rates will continue to rise rapidly, notwithstanding substantial slack in the economy, and that trend productivity growth will fail to rebound significantly. Under these circumstances, inflationary pressures would remain strong and, given the stringency of monetary policy, there would be little room for real growth.

- Capital costs. There is considerable risk that a continued policy of slow money growth will result in persistent high real rates of interest that offset, in part at least, the effects of enhanced tax incentives on business investment.

These factors are not the only determinants of growth, but they are critical if normal growth is to resume for the next five years.

Figure 10.
Velocity of M1



SOURCES:
Federal Reserve System, Board of Governors; U.S. Department of Commerce, Bureau of Economic Analysis.

This chapter begins with a brief overview of the relation between money aggregates and nominal GNP, and the behavior of prices and wages. The second part examines some of the sources of momentum in unit labor costs. The third part discusses the interaction of monetary and fiscal policies and their combined effects on economic growth. The last part provides a conclusion and brief policy discussion.

INCOME VELOCITY OF MONEY AND THE BEHAVIOR OF PRICES AND WAGES

Although the relationship between the gross national product and the supply of money has been quite unstable over short periods of time, such as a quarter or even a year, it is considerably more stable over longer time periods, such as two or three years (Figure 10). This implies that a tight monetary policy may impose a kind of ceiling on the growth of total spending (or nominal GNP) over a period of several years. 1/ Historically, a reduction in total

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1/ The growth in the income velocity of M1—the ratio of GNP to M1--for the last ten years is shown in Figure 10. It indicates first that velocity has tended to increase over this ten-year period but second, that the path has not been spending growth in the economy has reduced output and employment more than inflation, at least over the subsequent two years or so.

Figure 11 shows the growth of gross domestic product (GDP) during the past three decades. The lower panel shows the extent to which slowdowns in total spending were expressed in effects on output rather than on prices. The initial response to slower spending--and, therefore, to restrictive monetary and fiscal policies--is concentrated in lost output and higher unemployment rather than in lower inflation. In 1969-1970, for example, the growth in total spending fell about four and one-half percentage points. This decline was wholly absorbed by a deceleration in constant-dollar production and a sharp rise in joblessness. During this period, inflation as shown by the GDP deflator actually accelerated by half a percentage point, although it fell by more than a full percentage point during the next three years. The unfavorable split was even more dramatic in 1974, when total spending decelerated by about four percentage points, while the growth in real output fell by about six and one-half percentage points and unemployment rose. Improvement in inflation did not occur until 1975 and 1976.

One reason why inflation has been difficult to slow is that wage increases tend to be particularly persistent. Labor costs account for the bulk of total production costs (about two-thirds

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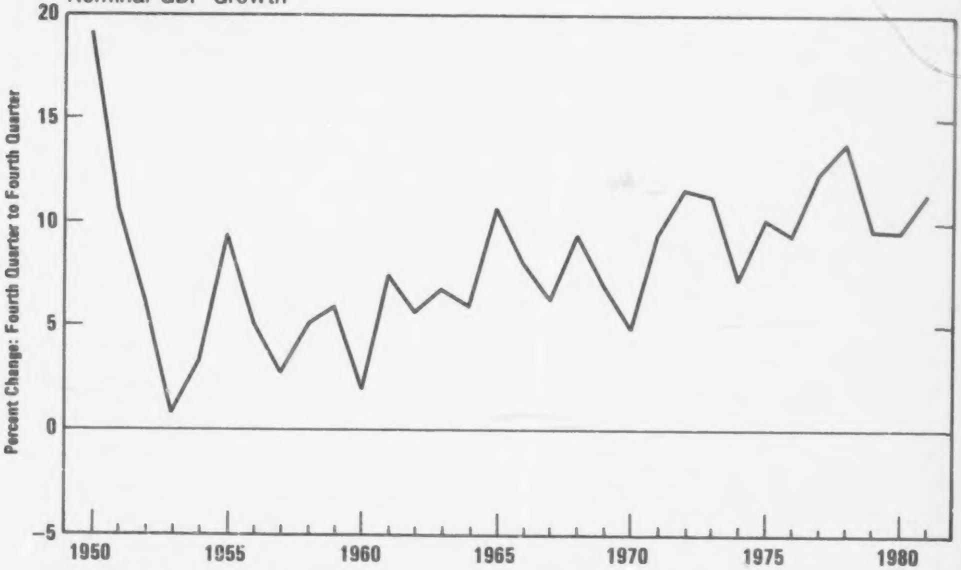
1/ (Continued)

very stable over short periods of time. When the period is lengthened to 24 or 36 quarters, however, the trend in velocity growth becomes considerably smoother. Even though velocity sometimes takes sharp jumps--particularly during economic recoveries--these periods generally do not persist much beyond a year. The determinants of velocity, as well as some factors causing instability in that ratio, are discussed in Chapter II. Financial innovations are continually being made that have the effect of raising the velocity of M1. Also, high interest rates stimulate economizing of money balances and spur financial innovation. To a certain extent, however, these developments can be anticipated. See David E. Lindsey, "Nonborrowed Reserve Targeting and Monetary Control."

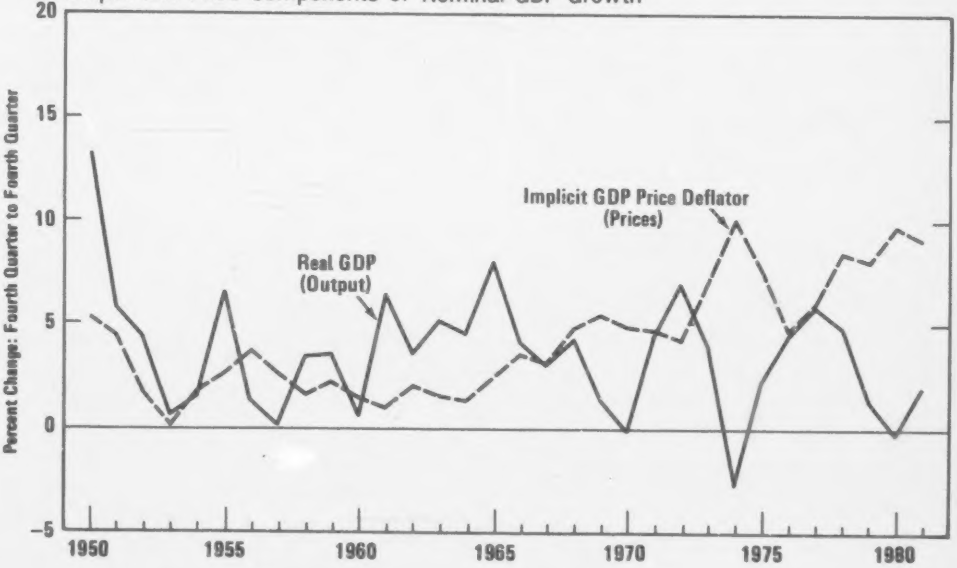
Figure 11.

Gross Domestic Product

Nominal GDP Growth

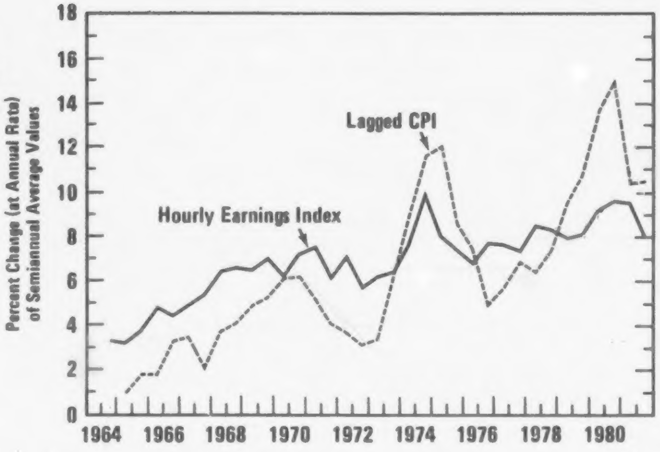


Output and Price Components of Nominal GDP Growth



SOURCE: Department of Commerce, Bureau of Economic Analysis.

Figure 12.
Consumer Price Index (Lagged One Period) and Hourly Earnings Index



SOURCE:
U.S. Department of Labor,
Bureau of Labor Statistics.

in the corporate sector). 2/ The historical behavior of the Consumer Price Index (CPI) and wages, summarized in Figure 12, shows that increases in the CPI have fluctuated considerably more widely than increases in wages. Wages have not fully responded to all the upward shifts in the CPI caused by such factors as the oil price shocks in 1973-1974 and 1979-1980, and the recent surge in mortgage interest rates.

Another reason for inflation momentum is that prices of some categories of products are quite sticky. According to one view, prices in "customer markets" change infrequently because of

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2/ Wages and prices are, of course, part of an interdependent economic system: Wages affect prices, and prices affect wages. In the long run, wages and prices are determined primarily by the interplay between the growth in money aggregates and the determinants of real economic growth, specifically technology, labor, and capital. But in the short run, the momentum of unit labor costs plays an important role in the transition to a lower rate of inflation by influencing the split between real growth and inflation. The key role of labor cost as a source of price inflexibility is illustrated by the fact that the Producer Price Index for finished goods is considerably less volatile than the index for primary goods or for intermediate goods. One reason may be that finished goods prices incorporate a larger proportion of labor cost.

customer relations. If sellers change prices too frequently, regular customers may be encouraged to engage in more searching for lower prices. 3/ Another explanation is that in situations of market concentration--where there are few sellers of a particular product--prices tend to be less flexible either up or down, compared with prices in more competitive markets. 4/

TRENDS IN UNIT LABOR COSTS

Changes in unit labor costs depend on changes in labor compensation per hour and on changes in productivity. The increase in unit labor costs is approximately equal to the increase in the labor compensation rate (labor compensation per hour) less the growth in labor productivity.

Many factors are believed to influence aggregate money wages but analysts have emphasized two in particular: changes in the cost of living, and the amount of slack in labor markets (usually measured by unemployment adjusted for changes in demographic composition). In general, the conclusion has been that labor slack has some modest, gradual effect on wage increases, and that increases in the cost of living tend to be rather fully but gradually reflected in wage increases. 5/ Also, some studies suggest that changes in the amount of slack may be an important determinant of nominal wages. 6/ If so, most of the deceleration in wages may

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3/ Arthur M. Okun, Prices and Quantities: A Macroeconomic Analysis (Brookings, 1981) pp. 138-54.

4/ For a discussion on the effects of market structure on aggregate price movements, see F.M. Scherer, Industrial Market Structure and Economic Performance (Rand McNally, 2nd ed., 1980), pp 349-74.

5/ For a recent survey of the literature on wage determination, see A.M. Santomero and J.J. Seater, "The Inflation-Unemployment Trade-off: A Critique of the Literature," Journal of Economic Literature, vol. XVI, no. 2 (June 1978), pp. 499-544.

6/ For example, see George L. Perry, "Inflation in Theory and Practice," Brookings Papers on Economic Activity, 1 (1980), pp. 207-41; and Robert J. Gordon, Comments (on the paper by Perry, in the same journal), pp. 249-57.

occur during recessions and in the early phases of recovery before unemployment falls sharply. In addition, expectations about future economic conditions, particularly regarding inflation and the strength of demand, are also believed to be important determinants of wage changes. 7/

Wages have shown considerable upward momentum during recessions, particularly during more recent recessions (see Table 16). In fact, wage increases accelerated considerably during the recession of 1973-1975. Special factors played some role in the persistence of wage inflation in 1974-1975--notably the feeding through of food and oil supply shocks and the lifting of wage and price controls. But in general it can be said that wages have become less affected by slack during the post-World War II period. 8/

In general, wages in more concentrated labor markets have been more affected by the persistent increases in the cost of living, and less affected by persistent high unemployment, than wages in more competitive labor markets. Also, wage differentials have widened considerably during the last decade--between union and nonunion workers, between workers in large firms and in smaller firms, and between high-wage industries and low-wage industries (see Table 17 and Figure 13).

The increase in wage dispersion would not necessarily be a cause for concern if it reflected competitive forces that were

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7/ See for example, John B. Taylor, "Aggregate Dynamics and Staggered Contracts," Journal of Political Economy, vol. 88, no. 1 (1980), pp. 1-23; and Robert J. Barro, "Unanticipated Money Growth and Unemployment in the United States," American Economic Review, vol. 67, no. 2 (March 1977), pp. 101-15.

8/ One recent study that examined the cyclical behavior of wages and prices over a considerably longer period of time (since 1890) concluded that wages in particular have shown less downward flexibility in the post-World War II period compared with the prewar period. See Jeffrey Sachs, "The Changing Cyclical Behavior of Wages and Prices: 1890-1976," American Economic Review, vol. 70, no. 1 (March 1980), pp. 78-91. Two explanations were offered for the reduced flexibility of wages in the postwar period: increased use of the three-year wage contract, and more active countercyclical policies that influenced expectations.

TABLE 16. WAGE CHANGES AND THE BUSINESS CYCLE IN THE UNITED STATES, 1948 TO 1981 (Changes at annual rates)

Peak	Percent Change			Acceleration (Deceleration -)		
Year and Quarter	4 Quarters Before Peak (A)	Peak to Trough (B)	4 Quarters After Trough (C)	During Recession (B - A)	During Early Expansion (C - B)	From Early Expansion to Before Peak (C - A)
			Compensation per Hour Index			
1948:4						
Manufacturing Sector	11.0	1.0	9.3	-10.0	8.3	-1.7
Nonfarm Private Business Sector	7.3	1.0	9.2	-6.3	8.2	1.9
1953:2						
Manufacturing Sector	5.6	4.5	3.3	-1.1	-1.2	-2.3
Nonfarm Private Business Sector	6.0	3.4	3.3	-2.6	-0.1	-2.7
1957:3						
Manufacturing Sector	5.5	4.1	4.2	-1.4	0.1	-1.3
Nonfarm Private Business Sector	5.3	3.8	4.3	-1.5	0.5	-1.0
1960:2						
Manufacturing Sector	4.3	2.9	3.7	-1.4	0.8	-0.6
Nonfarm Private Business Sector	4.4	2.6	4.4	-1.8	1.8	0.0
1969:4						
Manufacturing Sector	7.2	6.5	5.3	-0.7	-1.2	-1.9
Nonfarm Private Business Sector	6.5	7.0	5.7	0.5	-1.3	-0.8
1973:4						
Manufacturing Sector	8.1	13.4	7.7	5.3	-5.7	-0.4
Nonfarm Private Business Sector	8.1	10.8	7.4	2.7	-3.4	-0.7
1980:1						
Manufacturing Sector	9.5	14.0	10.3	4.5	-3.7	0.8
Nonfarm Private Business Sector	9.7	10.2	10.1	0.5	-0.1	0.4

(Continued)

TABLE 16. (Continued)

Peak	Percent Change			Acceleration (Deceleration -)		
Year and Quarter	4 Quarters Before Peak (A)	Peak to Trough (B)	4 Quarters After Trough (C)	During Recession (B - A)	During Early Expansion (C - B)	From Early Expansion to Before Peak (C - A)
			Average Hourly Earnings Index			
1948:4						
Manufacturing Sector	9.2	1.4	6.2	-7.8	4.8	-3.0
Nonfarm Private Business Sector	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1953:2						
Manufacturing Sector	5.4	3.8	2.4	-1.6	-1.4	-3.0
Nonfarm Private Business Sector	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1957:3						
Manufacturing Sector	5.0	4.2	3.3	-0.8	-0.9	-1.7
Nonfarm Private Business Sector	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1960:2						
Manufacturing Sector	3.1	3.0	2.7	-0.1	-0.3	-0.4
Nonfarm Private Business Sector	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1969:4						
Manufacturing Sector	6.1	6.1	6.2	0.0	0.1	0.1
Nonfarm Private Business Sector	6.9	6.6	6.5	-0.3	-0.1	-0.4
1973:4						
Manufacturing Sector	6.5	10.3	8.2	3.8	-2.1	1.7
Nonfarm Private Business Sector	6.3	8.9	7.1	2.6	-1.8	0.8
1980:1						
Manufacturing Sector	8.9	11.8	9.4	2.9	-2.4	0.5
Nonfarm Private Business Sector	8.3	9.5	9.2	1.2	-0.3	0.9

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics.

TABLE 17. AVERAGE ANNUAL WAGE RATE INCREASES FOR PRODUCTION WORKERS IN MANUFACTURING BY UNION AND NONUNION ESTABLISHMENTS, 1970 TO 1978 (Percent change)

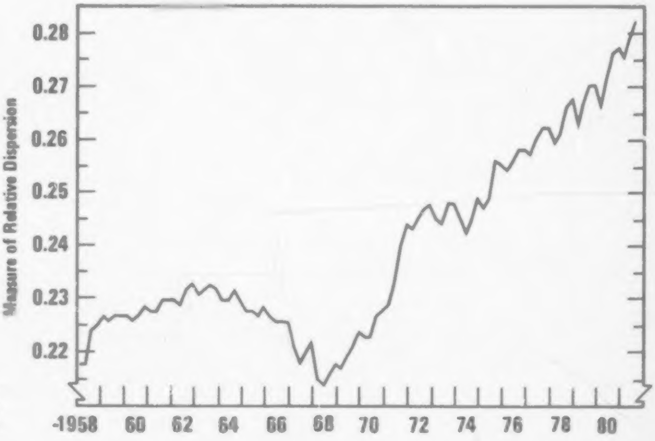
Year	Union Establishments (A)	Nonunion Establishments (B)	Difference (A - B)
1970	6.8	6.1	0.7
1971	7.7	5.7	2.0
1972	5.8	5.3	0.5
1973	6.7	6.7	--
1974	8.9	8.6	0.3
1975	8.9	6.9	2.0
1976	8.5	6.9	1.6
1977	8.1	7.0	1.1
1978	7.8	6.3	1.5
Average, 1970-78:			
Nominal	7.7	6.6	1.1
Real a/	1.7	0.6	1.1

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics.

a/ Using the personal consumption expenditures deflator.

Figure 13.

Interindustry Relative Dispersion of Wages



NOTE:
Measure of relative dispersion is the ratio of the standard deviation to the mean for wages in 116 industries.

SOURCE: U.S.Department of Labor, Bureau of Labor Statistics.

leading to a more efficient allocation of resources. That may not be the case, however. Noncompetitive forces seem to have distorted the wage structure to some extent. This in turn may have exacerbated the loss of high-productivity jobs in some industries. 9/ The relatively strong momentum of wage increases in some labor markets has complicated the policy task of stabilizing the economy. Not only have large wage increases persisted in the face of considerable unemployment in those labor markets, but they may induce workers in other sectors to try to catch up--thus making the battle against inflation more difficult still. Policymakers have been faced with the choice of fighting high inflation or high unemployment. Both, of course, have been inimical to long-run growth.

Causes of Wage Momentum

The precise cause of the momentum in wages and prices and the interpretation of the momentum is the subject of intense current debate among economists. Among the factors believed to have coutributed to wage momentum in the United States are:

- Wage contracts--including longer-term, three-year contracts and cost-of-living indexing;
- Wage norms or customary real increases in compensation, together with traditional wage relationships among different groups of workers;
- Market power of large firms and large unions;
- Changes in the significance of unemployment;

9/ For example, wage rates in steel and in autos rose substantially more rapidly than wages in all manufacturing during the last two decades; and, although there were other factors involved too, wage escalation played some role in the loss of high productivity jobs in these industries. See U.S. Industrial Competitiveness: A Comparison of Steel, Electronics and Automobiles, Office of Science and Technology, U.S. Congress (1981), pp. 58-60. Another recent study found that U.S. capital-intensive, low-skill industries have lost some of their competitiveness. See Assessing the Changing Structure of World Trade, U.S. Bureau of International Labor Affairs, Economic Discussion Paper 11 (July 1980), p.28.

- Government policies, particularly countercyclical monetary and fiscal policies.

Wage Contracts and Cost-of-Living Escalators

Wage Contracts. Most employment in the modern U.S. economy involves a continuous relationship between the employee and the employer, with the conditions of employment mutually understood. In unionized plants and in the structured "career" labor market that typifies most large employers (whether unionized or not) both employee and employer expect their relationship to continue over a number of years. 10/ In such situations, the wage contract--whether formal or implicit--imparts an inertia to wages. It takes time for the parties of the agreement to adjust to changes in the economic environment; when they do so, considerations of what is fair or normal play an important role.

In the unionized sector, contracts tend to be formal and in many cases long-term--typically three years. 11/ Although union workers represent only about 30 percent of private nonfarm employment, the union sector has a disproportionate effect on overall wage changes. Some nonunion wages are strongly influenced by union wages, although wage contracts may be implicit rather than formal.

One reason that wages may have more momentum today is that collective bargaining contracts now tend to cover a longer time span. In 1956, only 22 percent of major collective bargaining contracts were for three years or longer, but in 1980 approximately

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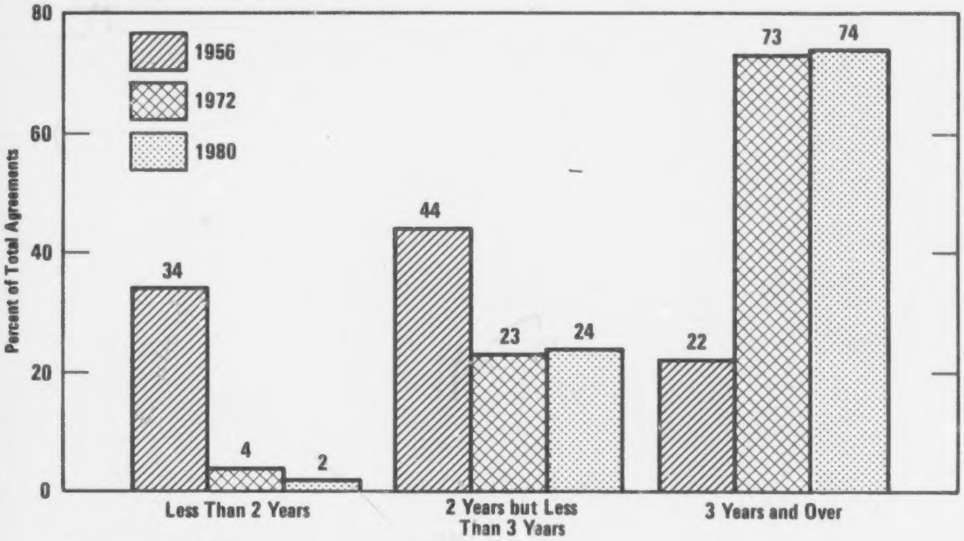
10/ Economists sometimes refer to the structured labor market inside the firm as a "career labor market" or "internal labor market." Essential features of such jobs are that they offer stability, opportunities for promotion, and fringe benefits. See Arthur M. Okun, "Inflation: Its Mechanics and Welfare Costs," Brookings Papers on Economic Activity, 2 (1975), pp. 366-67; and Peter B. Doeringer and Michael J. Piore, Internal Labor Markets and Manpower Analysis (Heath, 1971), pp. 13-90.

11/ The significance of wage contracts for inflation momentum has been emphasized by several economists, including John B. Taylor, "Aggregate Dynamics and Staggered Contracts," op. cit.; and Martin Neil Baily, "Contract Theory and the Moderation of Inflation by Recession and Controls," Brookings Papers on Economic Activity, 3 (1976), pp. 585-622.

Figure 14.

Duration of Major Collective Bargaining Agreements in 1956, 1972, and 1980



SOURCE: U.S. Department of Labor, Bureau of Labor Statistics.

three-quarters were for at least three years (see Figure 14 and Table 18). 12/ Of course, if economic conditions change, the parties to a collective bargaining agreement can reopen the contract and negotiate lower wage increases, but that has seldom occurred except in dire and unusual circumstances. As discussed in Chapter I, some unions have recently given up wage gains or appear willing to consider giving up wage gains, on an unprecedented scale. The Bureau of Labor Statistics reports that, for the first time, contract reopenings had a significant impact on wage gains under major collective bargaining agreements in 1981.

12/ Even if the increase in contract length has reduced the flexibility of wages, it may have had other advantages such as less frequent and less costly strikes. A principal reason for the increased popularity of the three-year contract may be that it reduces costs of negotiation and helps the employer to anticipate labor costs. Some economists speculate that wage contracts may exist because workers are more risk averse than management. See for example, Baily, "Contract Theory."

Wages in the unionized sector are considerably less sensitive to unemployment than wages in the nonunion sector, and that is particularly true for wages established in long-term contracts. A recent study of the manufacturing sector found that wages are not very sensitive to unemployment over the life of longer-term contracts. First-year wage increases, however, which included

TABLE 18. DURATION OF CONTRACTS FOR MAJOR COLLECTIVE BARGAINING AGREEMENTS IN SELECTED INDUSTRIES, JANUARY 1980

	Less Than 24 Months	24 to 35 Months	36 Months or Longer
	Percent of Total Agreements		
All Industries	2.2	23.6	74.2
Manufacturing	1.6	21.1	77.3
Nonmanufacturing	2.8	26.0	71.2
Construction	3.4	33.0	63.6
	Percent of Total Workers		
All Industries	1.4	19.2	79.4
Manufacturing	1.1	21.2	77.6
Nonmanufacturing	1.6	17.6	80.9
Construction	2.4	23.6	74.0

NOTE: Major agreements involve at least 1,000 workers.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Characteristics of Major Collective Bargaining Agreements (May 1981), p. 14.

one-year contracts, were affected by unemployment about as much as wages in the nonunionized sector. 13/

A further reason why wage contracts in this country contribute to inflation momentum is that their expiration dates are staggered. Negotiations are thus influenced not only by expectations about the future but by other wage contracts already concluded. This may not hold for some countries, notably Japan and Germany, where the structure of collective bargaining institutions may facilitate adjustment to changing conditions. Collective bargaining contracts in those countries are generally limited to one year, and the expiration dates tend to be synchronized. Bargaining is also much more centralized, which may make it easier to coordinate a slowing of the price-wage spiral. 14/

Cost-of-Living Escalators. Indexing wages for changes in the cost of living, a predominant feature of multiyear collective bargaining agreements, has mixed implications for wage momentum. 15/ On the one hand, when a major price increase first

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13/ Daniel J.B. Mitchell, "Union Wage Determination: Policy Implications and Outlook," Brookings Papers on Economic Activity, 3 (1978), pp. 537-82.

14/ Other institutional factors may be critical in explaining greater wage flexibility in Japan and Germany. In Japan for instance, many workers are paid substantial but varying bonuses at year-end. In Germany, the central bank has followed the practice of announcing macroeconomic targets before labor and management conclude their wage agreements.

15/ During periods of inflation, the use of such cost-of-living agreements (COLAs) becomes more widespread. Specifically, 23 percent of all workers under major contracts involving at least 1,000 workers were covered by escalators in 1955; 50 percent were covered in 1958 after inflation had flared up. The percentage covered fell to 20 percent in 1966 and then rose to 50 percent by 1975. Most COLAs provide for less than full passthrough of increases in the CPI--on average, only about one-half to two-thirds of an increase. See Council on Wage and Price Stability, Cost of Living Escalator Clauses and Inflation, Staff Report (August 1975), pp 11-32. In recent years, the CPI has considerably overstated increases in the cost of living because of the treatment of housing and mortgage interest in computing the index.

occurs, the cost-of-living agreements (COLAs) cause this initial price impulse to spread rather quickly to other wages and prices. In addition, if the price increase implies that real incomes must fall (for example, because the cost of imported oil has increased), COLAs may tend to isolate some workers from the effect: to the extent that others attempt to catch up with them, the inflationary impact is magnified. On the other hand, when the impetus to inflation from that source begins to fade, COLAs partially transmit the slowing of price increases into wages, but typically much less than in proportion. Thus, wages covered by three-year contracts with COLAs will decelerate more rapidly at the end of an inflation than wages covered by contracts of similar length without COLAs. But either of these arrangements may contribute to more wage momentum than shorter or less formal contracts.

Wage Norms and Interdependencies

The customary real wage gains (wage norms) observed in some industries have exacerbated wage momentum. Over the years, many workers came to expect a "catch up" for unexpected increases in the cost of living, plus a 2 to 3 percent real increase each year. Absent compelling reasons to the contrary, both employers and employees came to regard such wage agreements as normal and expected. Moreover, when one group got a large wage increase, other groups who compare their wages with those in that group attempted to catch up. 16/ Since workers, on average, cannot achieve real wage gains in excess of productivity growth, attempts by groups to maintain such norms or to catch up when productivity growth has slowed lead to inflationary increases in labor costs. This has been the experience of recent years.

16/ The precise importance and characteristics of wage interdependencies are still being debated by economists and the issue has not been settled. Some researchers have stressed a limited role for wage contagion. For example, one concludes, "Union wage gains do not appear to leak out into the nonunion sector where wages are lower and more flexible." See Robert J. Flanagan, "Wage Interdependence in Unionized Labor Markets," Brookings Papers on Economic Activity, 3 (1976), p. 673. For a contrary view about the effect of union wages on nonunion wages, see Council on Wage and Price Stability, A Quarterly Report of the Council on Wage and Price Stability with a Special Report on Inflation (April 1978), pp. 45-46.

Market Power

Large firms and large unions (as well as some groups of skilled workers and professionals) are sometimes able to obtain larger wage increases because of their market power. This does not mean that they are immune to market forces, but only that they have more discretion in wage and price decisionmaking.

It is debatable whether market concentration (in either labor or product markets) has increased during the postwar period. The critical factor is that the economic environment changed after 1973. In the context of high inflation and high unemployment, economic power has permitted increases in the cost of living to be shifted into higher wages, contributing to the momentum of inflation.

Changes in the Significance of Unemployment

As a measure of labor market slack, or pressure restraining wage increases, a particular level of unemployment in recent years means something quite different than it did 20 or 25 years ago. An unemployed worker is now more likely to be a member of a family with at least one employed worker. 17/ In addition, coverage under the unemployment insurance program has become more complete so that a substantial proportion of unemployed workers can wait longer in hope of getting better-paying jobs. 18/ The downward pressure on wages has been correspondingly reduced.

Another reason that unemployment may have relatively little effect in restraining wage increases is that a significant proportion of unemployed workers are on recall. They expect to be called back to their old jobs when recovery begins. If such workers are not actively searching for other jobs, their unemployment may cause relatively little pressure on wages--particularly in the beginning.

17/ In 1980, about 70 percent of unemployed workers (in families) were in families with at least one employed member. The increasing labor force participation of women and youth during the last two decades implies a correspondingly larger percentage than in the past.

18/ Approximately 97 percent of wage and salary employment is now covered by unemployment insurance programs compared to 77 percent in 1970.

Government Policies

Some economists believe that countercyclical monetary and fiscal policies have contributed to the upward momentum of wages and prices in that they have led people to expect brief recessions and relatively strong recoveries. The long inflationary trend that began after the mid-1960s, together with the increased use of longer-term wage contracts, may have affected expectations about wages and prices in the future and lessened the impact of economic slack on wage and price decisions.

Economists differ as to whether government monetary and fiscal policies are capable of slowing inflation without damping down the economy. Some believe that inflation persists in the face of economic slack because government policies have become more inflationary. Some also believe that the primary factor determining nominal wages and prices (even in the short run) is people's expectations about the future course of prices and that these expectations are mainly determined by what they perceive to be the direction of monetary policy. If so, the government might slow inflation quickly if it could convince people that its policies had become less accommodative of inflation and less responsive to cyclical changes in unemployment. 19/

To other economists, however, the historical record suggests that overcoming inflation may be very costly in the absence of some profound change such as the end of a major war or the end of great political turmoil. 20/ According to this view, expectations about prices are strongly influenced by past events such as changes that

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19/ See for example, Thomas J. Sargent, "The Ends of Four Big Inflations," paper presented at the National Bureau of Economic Research Conference on Inflation, October 10, 1980. For a discussion of the key role of the credibility of macroeconomic policies, see William Fellner, "The Core of the Controversy about Reducing Inflation: An Introductory Analysis," in Fellner, ed., Contemporary Economic Problems 1978 (American Enterprise Institute, 1978), pp. 1-12.

20/ See for example, Robert J. Gordon, "Why Stopping Inflation May Be Costly: Evidence From Fourteen Historical Episodes," NBER Conference on Inflation, February 27, 1981; and Charles L. Schultze, "Some Macro Foundations for Micro Theory," prepared for the Brookings Panel on Economic Activity, September 17-18, 1981.

have already occurred in the cost of living. Thus, the question of what determines price expectations has not been resolved. 21/

Not only monetary and fiscal policies have contributed to wage momentum but other government policies as well, including tax policies, minimum wage policies, Davis-Bacon procedures for setting wages on federal contracts, and restrictions on international trade. The frequent increases in payroll taxes during the last 20 years have added significantly to employers' costs. 22/

The Outlook For Wages

Past experience suggests that wage increases in the next few years will retain their strong momentum. It may be moderated, however, by several special factors: First, increases in the cost of living have slowed, primarily from more stable energy and food prices, and there is less wage catch-up in store than during the latter half of the 1970s. Second, the unemployment rate has been relatively high for an extended period and may increase further in the first half of 1982. Third, lower wage settlements may be reached in certain major collective bargaining settlements in 1982. The automobile sector has been in a severe slump for some time, as a result of a confluence of problems including the recession, high interest rates, the need to redesign product lines, and heavy foreign competition. Similarly, the trucking industry has been adversely affected by slow economic growth, the recession, energy-related problems, and competitive pressure from deregulation of transportation. (It is uncertain, however, to what extent agreements reached in these special situations may affect other wage bargains.) Fourth, in the area of government policies, no

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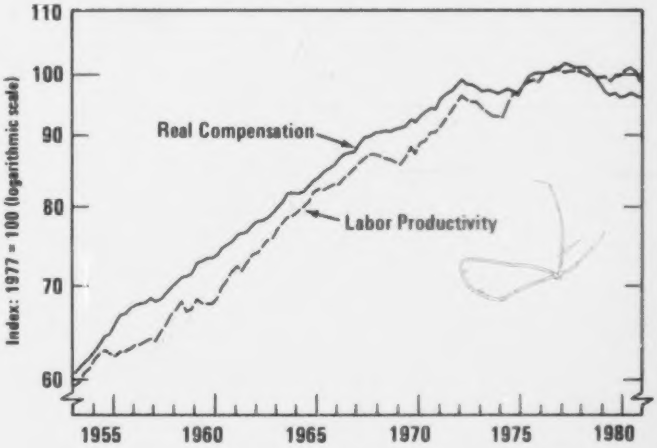
21/ For a recent discussion of alternative views about the costs of stopping inflation, see James Barth, "The Costs of Slowing Inflation: Four Views," Economic Review (Federal Reserve Bank of Atlanta, January 1982), pp. 39-49.

22/ There is also some evidence that increases in personal income taxes may add to upward momentum in nominal wages in some circumstances, particularly in several countries of Western Europe. See for example, Vito Tanzi, Inflation and the Personal Income Tax: An International Perspective (Cambridge University Press, 1980) Chapter 12, pp. 131-42.

increase in the minimum wage is scheduled for 1982, and the Social Security tax increase is less in 1982 than in 1980 or 1981. Finally, inflationary expectations may have moderated as people sense a shift toward less inflationary monetary and fiscal policies.

Figure 15.

Real Hourly Compensation and Output per Hour (Labor Productivity)



SOURCE:
U.S. Department of Labor,
Bureau of Labor Statistics.

Productivity Trends

No turnaround is yet evident in the productivity slowdown that began in the 1960s and worsened considerably during the 1970s. Slower productivity growth has retarded growth in real compensation and exacerbated inflation (Table 19 and Figure 15).

The slowdown in productivity growth seems to have been due to several fundamental causes, rather than to any single or dominant cause that could be reversed easily with a change of policy. Markedly slower growth in the amount of capital per worker after about 1973 was a factor in the productivity slowdown. Public policies accounted for some of the slowdown, particularly increased regulation and a tax system that worked in combination with inflation to discourage productive saving and investment. Other important factors included the leap in energy costs, rapid growth in the labor force, particularly the influx of large numbers of inexperienced workers into the labor market, and the virtual completion of the shift of labor from low-productivity employment in farming to higher-productivity employment elsewhere. 23/

23/ For a detailed study, see Congressional Budget Office, *The Productivity Problem: Alternatives for Action* (January 1981).

TABLE 19. GROWTH IN OUTPUT PER HOUR OF LABOR IN THE UNITED STATES, SELECTED PERIODS, 1947 TO 1981 (Average annual percent changes)

	Private Business Sector	Nonfarm Private Business Sector	Manufacturing Sector
1947-1965	3.3	2.7	3.2
1965-1973	2.4	2.1	2.8
1973-1978	1.1	0.9	1.6
1978-1979	-0.4	-0.7	1.1
1979-1980	-0.2	-0.3	-0.4
1980-1981	1.1 a/	0.8 a/	2.7 a/

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics.

a/ Data for 1981 are preliminary.

The fact that the productivity slowdown has been a worldwide phenomenon also attests to the fundamental nature of its causes. The data in Table 20 confirm that almost all industrial countries have experienced a significant slowdown in productivity growth; in some cases, the slowdown has been considerably more pronounced than in the United States.

It may be very difficult to reverse or offset the factors that caused the productivity slowdown. Businesses are hesitant to invest when they have considerable unused capacity and when the costs of financing are so high. Moreover, while energy costs appear to have stabilized (at least for the time being), some economists believe that the negative impacts of earlier increases operate with substantial lags. 24/ Some easing of government

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24/ See for example, William D. Nordhaus, "Oil and Economic Performance in Industrial Countries," Brookings Papers on Economic Activity, 2 (1980), pp. 341-88.

TABLE 20. AVERAGE ANNUAL GROWTH IN LABOR PRODUCTIVITY IN MAJOR INDUSTRIAL COUNTRIES, 1960 TO 1973 AND 1973 TO 1979 (Percent changes)

Country	1960-1973 (A)	1973-1979 (B)	Slowdown (A - B)
United States	3.1	1.1	2.0
Canada	4.2	1.0	3.2
Italy	7.8	1.6	6.2
United Kingdom	3.8	1.9	1.9
Sweden	5.8	2.5	3.3
Japan	9.9	3.8	6.1
France	5.9	4.2	1.7
West Germany	5.8	4.3	1.5
Belgium	6.1	4.4	1.7

SOURCE: John W. Kendrick, "International Comparisons of Recent Productivity Trends," in William Fellner, ed., Essays in Contemporary Economic Problems: Demand, Productivity and Population (American Enterprise Institute, 1981), p. 128.

regulation is possible, although the objectives that the regulations are designed to achieve--such as environmental quality and occupational safety--continue to be important goals, constraining this approach to productivity growth.

Nevertheless, there are reasons to expect some modest and gradual improvement in U.S. productivity growth in the 1980s. First, recovery from the current recession should bring with it a cyclical upswing in productivity--as overhead labor is spread over a larger volume of output. Second, the recently enacted tax measures should eventually spur capital formation and innovation. (As indicated in the next section, however, high interest rates could offset much of the positive effect of these tax increases.) Third, the labor force is likely to grow more slowly during the 1980s contributing to faster growth in the capital-to-labor ratio, and the influx of inexperienced youths into the labor force will slow as the baby boom generation grows older. However, most analysts expect a rapid impact only from the first factor.

THE FISCAL-MONETARY POLICY MIX

The Economic Recovery Tax Act of 1981 is expected to boost economic growth by stimulating consumer demands and raising incentives to save and invest. The saving and investing effects may take longer to develop, but they are nonetheless important because an increased capital stock is fundamental to economic growth and productivity. This policy is not expected, however, to have a large effect on inflation over the next few years. Its longer-term effects on inflation are also expected to be quite modest. Thus the current strong inertia in wages and prices, as detailed above, will continue to be an important policy problem over the first half of the decade.

Over the next few years, the thrust of monetary policy is expected to be exactly opposite to that of fiscal policy. High real interest rates are expected to restrain the growth in consumer spending, especially for housing and durable goods. Weak consumer demand results in excess capacity, which in turn discourages investment. High interest rates are also expected to exert a powerful restraining effect on investment. There is a considerable risk that tight credit conditions will offset the investment incentives of the act. To the extent that this occurs, the prospects for substantial increases in productivity and economic growth will be greatly diminished.

The Fiscal Stimulus

The recently enacted tax changes are more forward looking than most tax changes in recent experience. The tax package was designed to increase the economy's capacity to produce. Its "supply side" incentives are of two general types: first, those that are intended to increase labor supply and work effort; and second, those that are intended to encourage saving and investment.

Labor Supply. The reductions in marginal income tax rates, and the indexation of tax rates beginning in 1985, may be expected to increase labor supply to some degree. Empirical studies suggest that the largest response occurs among females and second family earners. The response of male heads of families to lower marginal rates is apparently quite small. The overall response—either in hours worked or in labor force participation rates--is difficult to estimate, though most studies suggest it is not large. 25/ Moreover, projections of personal income tax rates indicate that many wage earners may experience little or no reduction in their marginal rates during the next few years (see Chapter II). Thus estimates of very large responses in labor supply do not seem warranted. 26/

Saving. The Tax Act of 1981 includes measures that may significantly increase the private saving rate. First, the act contains several special saving incentives, such as liberalized individual retirement accounts or IRAs, tax-exempt savings certificates and dividend reinvestment plans for holders of utility stocks. Second, the cut in marginal income tax rates may lead to more saving because it raises the after-tax return. In particular, it reduces the maximum tax rate on investment income from 70 percent to 50 percent--or by almost 30 percent. Third, its proportionate cut in tax rates raises after-tax incomes more for higher- than for lower-income taxpayers, and higher-income persons may have higher saving rates. Finally, the higher real after-tax interest rates stemming from a tight monetary policy should provide an incentive to save more and consume less than in the past.

Considerable uncertainty remains as to the size of the act's impact on personal saving. For one thing, most studies report small or ambiguous changes in saving in response to changes in the

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25/ Two recent summaries of these studies are to be found in: Congressional Budget Office, An Analysis of the Roth-Kemp Tax Cut Proposal (October 1978), and Don Fullerton, "Can Tax Revenues Go Up When Tax Rates Go Down?," Office of Tax Analysis, Paper #41, Treasury Department, Washington, D.C. One recent empirical study, however, reports somewhat larger supply effects than most previous studies. See: J. Hausman, "Labor Supply," in H.J. Aaron and Joseph A. Pechman, eds., How Taxes Affect Economic Behavior (Brookings, 1981), pp. 27-84, and J. Hausman, "Income and Payroll Tax Policy and Labor Supply," in L.H. Meyer, ed., The Supply-Side Effects of Economic Policy, (Center for the Study of American Business, 1981), pp. 173-202.

26/ There is the related issue that high marginal tax rates encourage tax avoidance, some of which may be reduced by the tax cut.

after-tax return on saving. 27/ For another, some analysts expect that a significant portion of the funds deposited in IRAs or in tax-exempt savings certificates will come from some other form of saving rather than from an increase in the saving rate. Even so, for most taxpayers, the existence of a tax-free saving opportunity means that income taxes have moved considerably closer to being an effective tax on consumption. 28/ Finally, there is some controversy over whether higher-income persons in fact save a larger share of an increase in income than do moderate- or lower-income persons. 29/

Business saving will also rise as the accelerated depreciation benefits, new leasing provisions, and the expanded investment tax credit work to reduce tax liabilities and raise internal cash flow. Government saving, on the other hand, will decline as a result of the new fiscal policy. Furthermore, to the extent that monetary policy restrains the effects of the fiscal policy shift on economic growth, it will limit the expansion of tax revenues. Thus, while the personal savings rate may be high, the flow of savings may not be enough to finance a large increase in business investment.

Investment. The Tax Act of 1981 will encourage business investment in several ways. First, as mentioned earlier, the cut in marginal income tax rates and the special savings incentives, such as IRAs, may increase the availability of funds for investment. Second the reduction in business taxes--increased

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27/ See footnote 25/. Empirical studies of this issue, however, have the shortcoming that they are based on a protracted period of low rates of return on savings. Prospective returns, on the other hand, are much higher than in recent memory. For many taxpayers, however, the real after-tax interest rate from savings may still be close to zero unless the income from savings is tax-sheltered.

28/ It is of some importance, also, where these extra savings (if any) end up. If the increases in IRAs end up in money market mutual funds, they may serve to fund U.S. government debt and corporate borrowing. If, instead, they find their way into thrift institutions, they are more likely to find their way into investment in housing.

29/ Milton Friedman, A Theory of the Consumption Function (Princeton University Press, 1957), Chapter 9.

depreciation allowances, the liberalized investment tax credit (including the new leasing provision), and provisions for rehabilitation of structures--will reduce the cost of capital and raise cash flow. Third, the boost in final demands from the reduction in personal taxes and increased spending for defense will reduce excess capacity, thereby encouraging further investment. Finally, the tax cuts raise the attractiveness of business investment in equipment and structures relative to investment in owner-occupied housing. 30/ The Tax Act also includes tax benefits for research and development to stimulate technological change. As indicated in Appendix A, however, investment incentives continue to remain sensitive to changes in inflation. Moreover, the tax system retains its bias toward investment in equipment rather than structures. As a result, capital will continue to be allocated somewhat inefficiently among different kinds of assets.

Economic Growth and the Conflict Between Monetary and Fiscal Policy

Past experience with tax cuts suggests that the Economic Recovery Tax Act can have a substantial impact on economic growth. In particular, the tax cuts should provide a sizable boost to investment. But this experience tells little about the outcome of the combined policies of tight credit conditions and large tax cuts, coupled with large, persistent deficits. Some economists believe that tight credit conditions will choke off growth over the next several years (see Chapter II).

The recent high interest rates and weak economic growth have raised the cost of capital and left firms with idle plant capacity, and an uncertain outlook for sales in the near term. The coming buildup in defense spending and the growth in consumer spending as a result of the tax cuts may increase capacity utilization in industries not greatly affected by interest costs. The net effect depends upon two important tradeoffs in investment decisions:

30/ Many economists believe that the previous tax law encouraged investment in housing at the expense of business investment. See, for example, Frank DeLeeuw and L. Ozanne, "Housing," in Aaron and Pechman, ed., How Taxes Affect Economic Behavior (Brookings, 1981), pp. 283-326.

- Are output and capacity utilization more or less important than capital cost in the formation of investment decisions? and

- Will interest rates move upward enough to offset the increased depreciation benefits--rendering the after-tax cost of capital largely unchanged?

The issue of capacity utilization versus cost of capital variables in the determination of business fixed investment is primarily an empirical one, but it remains unresolved. In the past, tax changes to encourage investment such as those of 1962 have been followed by periods of strong growth in final demands--making the effect of the changes difficult to isolate. The work of Clark [31] and Eisner/Chirinko [32] suggests that the role of the cost of capital in investment may be overstated in most large econometric models. However, in periods when resources are fully employed, a reduction in capital costs should produce a significant reallocation from consumption to investment spending.

In the present circumstances, the increase in interest rates could substantially weaken the beneficial effects of the business tax cuts. Continued high real interest rates are expected because of the Federal Reserve's monetary policy, the prospect of large budget deficits, and the increases in investment incentives from the Tax Act.

The implications of an increase in interest rates for the cost of capital are illustrated in Table 21, for different types of investment. The first column shows the effect of the tax changes by themselves on the rental cost of capital (after the Accelerated Cost Recovery System has been fully phased in). The second column shows the combined effect of the tax change and a one-percentage-point increase in the cost of funds. These calculations suggest

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[31] Peter K. Clark, "Investment in the 1970s: Theory, Performance and Prediction," Brookings Papers on Economic Activity, 1 (1979), pp. 73-113.

[32] Robert Eisner and R.S. Chirinko, "The Effects of Tax Parameters on the Investment Equations in Macroeconomic Econometric Models," Office of Tax Analysis Papers 46 and 47, U.S. Treasury Department (1981).

TABLE 21. THE IMPACT ON THE RENTAL COST OF CAPITAL OF THE ACCELERATED COST RECOVERY SYSTEM (ACRS) AND A RISE IN INTEREST RATES, BY ASSET TYPE (Percentage change)

Asset Category	Effect of ACRS With No Change in Real Interest Rates (Percent)	Effect of ACRS and a One-Percentage Point Increase in Real Interest Rates (Percent)
Cars	-6.1	-2.6
Trucks, Buses, and Trailers	-8.4	-3.7
Construction Equipment	-8.4	-2.3
General Industrial Equipment	-11.4	-4.7
Industrial Steam Equipment	-19.7	-10.9
Utility Power Plants	-8.1	8.1
Industrial Buildings	-8.7	0.0
Commercial Building	-14.0	1.0
Apartment Buildings	-6.8	12.3
Apartment Buildings (Low Income)	-8.2	11.0

NOTE: The illustration assumes a 6 percent inflation rate and that the tax changes have been fully phased in. The tax deductibility of interest costs has been ignored in this calculation.

SOURCE: Jane G. Gravelle, "Effect of the Accelerated Cost Recovery System by Asset Type," Congressional Research Service (August 31, 1981).

that it might not take a very large increase in the cost of funds to undo much of the beneficial effect of the tax measures on business investment. According to a recent Library of Congress study, if the real rate of interest increased by one percentage point, then as much as half of the impact of the tax changes might be lost for cars, and three-quarters for construction equipment (see Table 21). The effect could be substantially greater for structures than for equipment, because of the longer life of structures. The increase in interest rates completely offsets the lower tax effect for industrial buildings and more than offsets it for apartment buildings. This analysis suggests that monetary policy could effectively short-circuit much of the favorable impact of ACRS on investment.

CONCLUSION AND POLICY OPTIONS

The outlook for economic growth over the next few years is uncertain because of three factors. First, a restrictive monetary policy constrains the likely growth in nominal GNP over periods of more than one year. Second, the strong inflation momentum--largely the result of rising unit labor costs--reduces the amount of feasible real growth in GNP in this monetary environment. Nominal wage increases in the past have not shown much sensitivity to economic slack or to changes in macroeconomic policies. Productivity growth--the other main determinant of unit labor costs in addition to nominal wages--seems likely to improve, but only moderately. The third factor is the clash between an expansive fiscal policy and a restrictive monetary policy, which could produce lackluster performance for investment.

It is possible that inflation will subside much more quickly than anticipated in a way that would permit more rapid economic growth. This could happen if nominal wage increases slowed sharply, or if productivity grew rapidly for longer than the usual cyclical upswing. The first of these favorable possibilities is perhaps more likely than the second, given recent developments in collective bargaining. But historical experience suggests that neither is likely.

A shift in economic policy might override the inhibiting factors, though not without difficult tradeoffs. Monetary policy could be eased, but at the cost of further inflation. Alternatively, fiscal policy could be adjusted to provide smaller deficits--an option discussed in the next chapter. Other options, such as incomes policies, are not discussed here because they are not being actively considered by policymakers.

CHAPTER V. ECONOMIC EFFECTS OF FEDERAL BUDGET DEFICITS

If the prospective rise in the federal budget deficit were exclusively, or principally, a temporary cyclical phenomenon, there would be little cause for concern. Indeed, rising budget deficits during periods of recession serve to limit both the magnitude and duration of the decline in economic activity. Once the recovery is underway, the recession-induced bulge in the deficit disappears as tax revenues grow and as outlays for unemployment compensation and other programs decline.

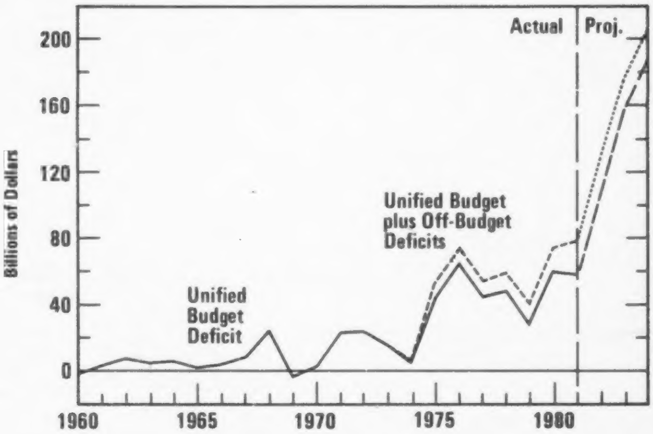
Unfortunately, the budget problem facing the U.S. Congress is neither exclusively nor principally recession-related. It is, rather, a problem of prospective chronic budget deficits. Without significant legislative changes in federal spending and tax laws, the trend appears to be one of large and growing federal budget deficits, not only during the recovery from the current recession but for the foreseeable future as well (see Chapter III).

The problem of chronic budget deficits is not new, as evidenced by the fact that the federal budget has been in surplus only once in the past 20 years (see Figure 16). However, the difficult economic and budget issues raised by these earlier deficits pale by comparison with the problems that face the country today. No clear economic rationale exists for the persistence of deficit spending year after year, and the distinct possibility exists that the very large and rising budget deficits projected in this report could seriously impair the overall performance of the economy. 1/

1/ In a Keynesian spirit, it can be argued that a government deficit may be needed to hold the economy at a desired level of output if other sectors of the economy save more than they invest. Even in a Keynesian framework, however, an argument for persistent deficits over a prolonged period would require a demonstration that oversaving by the private sector is a chronic or secular condition. See James Tobin, "Deficit, Deficit, Who's Got the Deficit?" National Economic Policy (Yale University Press, 1966) pp. 49-55.

Figure 16.

Actual and Projected Budget Deficits



SOURCES:
U.S. Office of Management and Budget for historical data; CBO for projections.

It is the purpose of this chapter to examine briefly the issues under debate concerning the effects of federal government deficits. Unfortunately, the available evidence suffers from one severe limitation: the prospective U.S. federal budget deficits, both in magnitude and as a proportion of GNP, considerably exceed peacetime historical experience. Any conclusions based on such evidence must, therefore, be interpreted cautiously and tentatively.

ECONOMIC IMPACTS OF BUDGET DEFICITS: THE EVIDENCE

The adverse economic consequences of federal deficits depend to a considerable extent on how budget deficits are financed. They can be financed in two ways: by direct borrowing from the public (including borrowing from abroad), and/or by expanding the money supply.

- The increased competition for funds induced by federal government borrowing drives up interest rates, crowding out private-sector investment. Ultimately, the reduction in private investment hurts productivity growth and worsens inflation. In the face of chronic budget deficits, these adverse effects are compounded by the further increase in outlays for interest on the federal debt caused by higher interest rates.

- o Increased federal government borrowing exacerbates inflationary pressures if the Federal Reserve is induced to expand the money supply to limit the rise in interest rates. 2/

The relationship between budget deficits and other economic variables is not as clear-cut and simple as these statements imply. For example, simple contemporaneous plots of data for the U.S., as well as for other industrialized countries, show only a weak association between budget deficits on the one hand and interest rates, money supply growth, and inflation on the other. However, as explained below, a major reason for the weak association is that changes in budget deficits can be both passive, reflecting changing economic conditions, and policy induced, reflecting various kinds of budget initiatives.

Deficits and Interest Rates. Since 1960, increases in the federal deficit have often been associated with decreases in interest rates. This reflects the fact that deficits and interest rates are both sensitive to other variables, particularly the level of economic activity. When GNP growth slows, the deficit rises as tax revenue growth falls and government outlays for social insurance rise. At the same time, interest rates fall because of reduced demands for credit from borrowers other than the federal government. 3/ Interest rates are also affected by foreign purchases of U.S. debt quite independently of U.S. budget deficits. Thus, it is not surprising that the simple plot of interest rates and budget deficits in the U.S. does not show a strong association. 4/

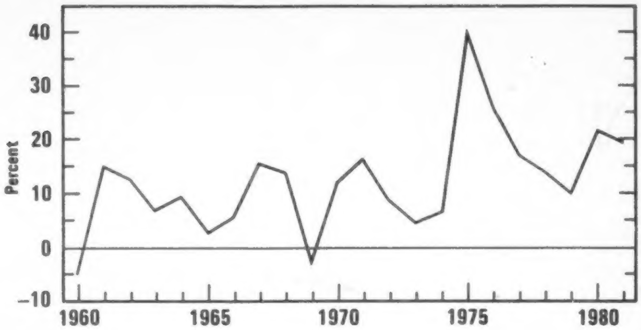
2/ For a statement of these arguments, see the testimony of Budget Director David Stockman before the Senate Budget Committee, September 11, 1981, and Michael Hamburger and Burton Zwick, "Deficits, Money, and Inflation," Journal of Monetary Economics, vol. 7 (1981), pp. 141-50.

3/ Interest rates do not fall as far as they would if the deficit did not increase at the same time. In this sense, it can be said that the increase in the deficit, taken by itself, increases interest rates.

4/ Experience in other industrialized countries also shows that the association between budget deficits and interest rates is not clear cut.

Figure 17.

Direct Federal Borrowing Absorption Rate



NOTE:
1981 data point is the average value for the first 3 quarters of 1981.

SOURCE: Federal Reserve System, Board of Governors.

Many analysts believe that a more useful indicator of the upward pressure on interest rates induced by federal government borrowing is provided by the so-called "absorption rate". Figure 17 shows direct borrowing by the Treasury as a percentage of total credit raised by U.S. nonfinancial sectors for the past 20 years--a measure known as the "direct borrowing absorption rate". 5/ During recession years, this ratio rises sharply because of reduced private-sector demands for credit and automatic increases in the federal deficit. However, even when the recession years are excluded, the absorption rate shows a modestly rising trend. This secular increase in the absorption rate is believed to have contributed to the recent rising trend in interest rates. In view of prospective sharp trend increases in the absorption rate induced by

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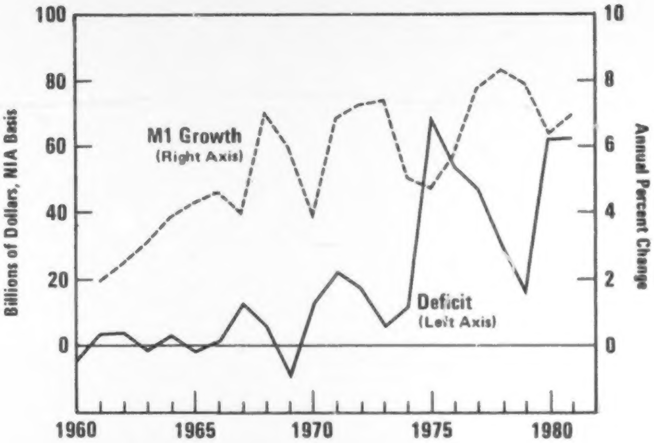
5/ This definition of the absorption rate differs from another often-used definition--the ratio of direct federal borrowing plus borrowing by federally-sponsored private agencies plus federally-guaranteed private borrowing to total credit raised by nonfinancial sectors. The "direct borrowing" absorption rate excludes federally-guaranteed and federally-sponsored borrowing because some of this might have occurred even without federal participation.

Figure 18.

U.S. Federal Deficits and M1 Growth



SOURCES:
U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Board of Governors.

rising budget deficits, the upward pressure on interest rates in the near term, at least, could be substantial. 6/

Deficits and Money Growth. Another widely-held view is that deficits have put pressure on the Federal Reserve to expand the money supply in order to stem the upward pressure on interest rates caused by increases in the deficit. As shown in Figure 18, increases in the deficit are often associated with periods of

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6/ Phillip Cagan has argued that deficits themselves may not be entirely responsible for the rise in the absorption rate. This is because a significant fraction of the federal deficit in recent years has been accounted for by outlays for interest on the federal debt. Interest has in turn been high because of the high inflation premiums embodied in recent interest rates. The function of these inflation premiums is to reimburse holders of federal debt instruments for the decline in the real principal value of their assets that is caused by inflation. It is therefore likely that many wealthholders would choose to save these enlarged interest receipts in order to maintain the principal value of their investments. Cagan's explanation for the high recent levels of the absorption rate is that bondholders may have chosen to invest their interest receipts in real goods like jewelry and artwork rather than in weak or negative money growth. This happens for cyclical reasons much like those discussed above: money growth slows when economic growth is weak because less money is demanded to carry out transactions. 7/

However, this historical experience may not furnish a guide to how deficits and the money supply will interact in the United States during the next few years. The behavior of the money supply is determined above all by the actions of the Federal Reserve System, which has put heavy emphasis on reducing money growth rather than controlling interest rates in recent years. Since it adopted this policy, interest rates have been more volatile and, at times, higher than ever before. This suggests that the Federal Reserve may now be willing to allow interest rates to rise to a much greater extent than in the past. Nevertheless, many analysts believe that the Federal Reserve will decide to ease its policy if prospective federal deficits are anywhere near as large as those in the CBO baseline projections. This subject is discussed further in Appendix B.

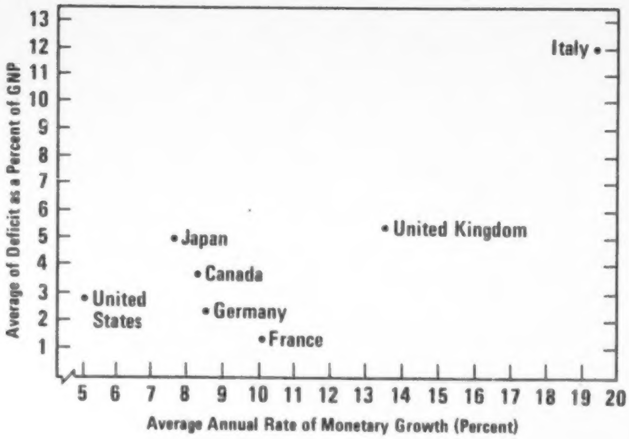
6/ (Continued)

financial assets. The absorption rate is therefore higher than it would otherwise be because the flow of financial saving is smaller. The main reason that investors may have chosen real rather than financial assets, Cagan argues, is the high inflation rate, which reduces the real after-tax rate of return on financial investments relative to that on real goods. See Phillip Cagan, "The Real Federal Deficit and Financial Markets," in The AEI Economist (November 1981), pp. 1-6. Cagan's arguments do not contradict the adverse consequences for investment and productivity caused by high absorption rates.

7/ Evidence from a group of seven industrialized countries for the late 1970s is also mixed when budget deficits are compared in a simple way to rates of money growth. As Figure 19 shows, there appears to be some correlation when the group of seven countries is considered together. If attention is restricted to Japan, Canada, West Germany, and France, however, the conclusion that higher deficit ratios are associated with higher rates of monetary growth is reversed.

Figure 19.

Comparison of Central Government Deficits and Monetary Growth, 1975-1980



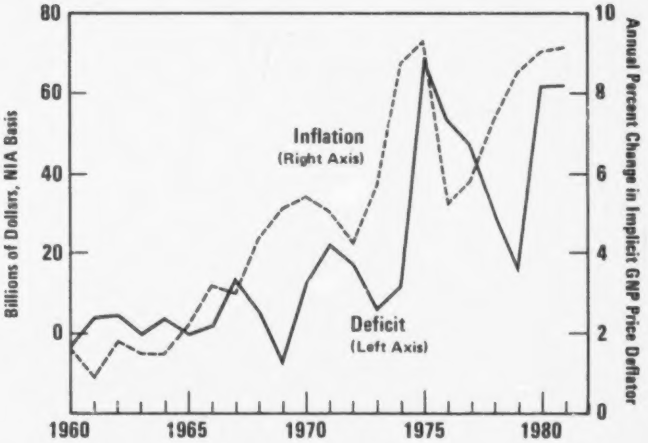
SOURCE:
International Monetary Fund.

Deficits and Inflation. Do increases in the federal deficit necessarily lead to increases in inflation? As Figure 20 shows, there appears to be some correlation between the two variables in recent U.S. experience. Generally, however, increases in inflation have preceded increases in the deficit. This may occur if rising inflation causes the economy to weaken (and the deficit therefore to increase) through commodity shocks or because the Federal Reserve is induced by increases in inflation to tighten monetary policy. In any case, it is hard to conclude from contemporaneous changes in these two variables that increases in the deficit predictably cause increases in inflation. 8/ One reason is that policy-induced deficits may affect economic activity with a lag.

8/ Evidence from a group of seven industrialized countries on the relationship of the deficit to the inflation rate is, once again, mixed. As Figure 21 shows, there does appear to be a correlation between the average annual deficit as a percentage of GNP and average annual rates of inflation during the late 1970s. The relationship is weakened, however, by the cases of Japan and France as well as by Italy, which had about the same average inflation rate as did the United Kingdom despite a deficit ratio more than twice as large.

Figure 20.

U.S. Federal Deficits and Inflation



SOURCE:
U.S. Department of Commerce,
Bureau of Economic Analysis.

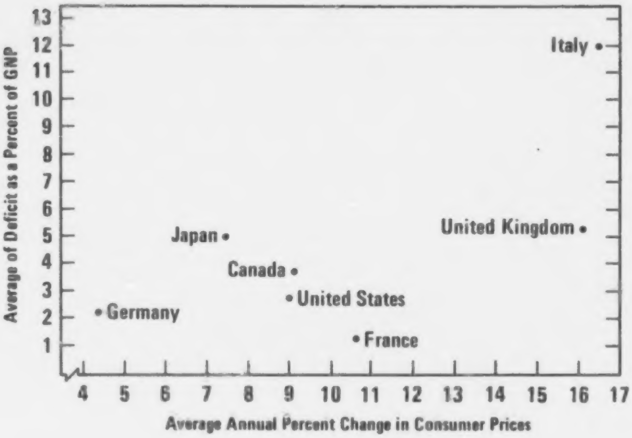
Many large econometric models show such lagged effects when budget policies result in excess demand, as in the Vietnam War period. Policy-induced deficits may also raise inflationary expectations, if the increased deficits are expected to result in easier monetary policy.

IMPACTS OF DEFICITS ON INVESTMENT, PRODUCTIVITY, AND INFLATION

Few generalizations can be drawn from simple two-variable analyses of the short-run effects of budget deficits. The relationship of budget deficits to other economic magnitudes is quite complex. Certainly one cannot conclude that a temporary rise in deficits inevitably causes high interest rates, rapid inflation, or fast monetary growth. In the short run, the impact depends upon the source of the deficit and the state of the economy. But if large and rising deficits are allowed to persist over the longer run, despite the economy's level of operation, then their effects on interest rates and investment may lead to severe economic problems. Policy-induced increases in the deficit that crowd out private investment have serious consequences over the long run for productivity growth and inflation. There is evidence, too, that policy-induced deficit increases may cause the money supply to increase, though this evidence seems weak, especially in recent years.

Figure 21.

Comparison of Central Government Deficits and Consumer Price Inflation, 1975-1980



SOURCE:
International Monetary Fund.

Investment Impacts

Although there are strong reasons to believe that policy-induced deficits reduce private-sector investment by bidding up interest rates, 7/ there may be mitigating factors under certain

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7/ A second way in which investment may be crowded out by policy-induced deficits is more direct: if the deficit arises because of government spending for public-sector investments that are close substitutes for private-sector investment (for example, manpower-related spending), private firms may scale back plans for similar expenditures. The productivity implications of this "direct crowding out" are complex. Some economists have argued that little productivity impact need be felt; see Paul David and John L. Scadding, "Private Savings: Ultrarationality, Aggregation and 'Denison's Law'," Journal of Political Economy (March/April 1974), pp. 225-49. More conditions. As the discussion below will show, policy-induced deficits may even increase investment if the economy is weak or if the deficit arises from efforts to increase investment incentives. New flows of saving may arise in response to policy-induced deficits that stimulate aggregate income growth or attract funds into the economy from abroad. Moreover, even if private investment is reduced by increases in the deficit, the consequences for productivity growth may be mitigated, as some observers have argued, if some of the funds diverted to the federal government are channeled into public-sector investments that themselves increase productivity growth. Finally, policy-induced increases in the deficit may be offset by growing state and local government surpluses: what matters ultimately is the change in total government borrowing, not just federal government borrowing.

Two of the major determinants of business investment are: (1) the cost of external funds and (2) the utilization of existing productive capacity as well as expected capacity utilization in the future. Policy-induced deficits influence both of these determinants, but with opposite effects on investment. To the extent that such deficits raise real interest rates, investment spending will be lower than otherwise. But to the extent that deficits raise aggregate demand, raising both existing and expected capacity utilization rates, investment spending will be higher than

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7/ (Continued)

recently, however, George von Furstenberg has argued that productivity may still suffer because of reductions in private saving that may be caused if government investment is debt-financed. See George von Furstenberg, "Public versus Private Spending: The Long-Term Consequences of Direct Crowding Out," in George von Furstenberg, ed., The Government and Capital Formation, pp. 243-63.

otherwise. 8/ 9/ The net effect of these two opposite forces is not entirely clear. However, what seems to be true is that the importance of changes in external costs varies directly with changes in existing and expected future capacity utilization rates: if the economy is operating near capacity, changes in the real cost of funds may have a more significant influence on the allocation of resources between consumption and investment.

Impact of Policy-Induced Deficits Caused by Tax Incentives for Investment. If policy-induced deficits arise because of the revenue losses associated with enhanced tax incentives for

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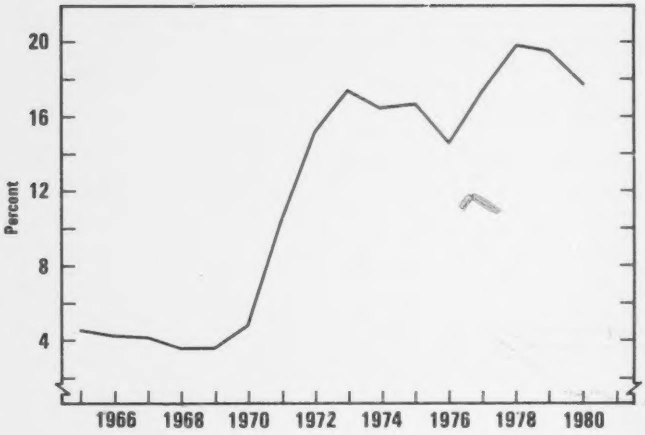
8/ Some economists have argued on the other hand that increased deficits financed by borrowing cannot increase aggregate spending. This is because increased federal borrowing may necessitate increased taxes in the future to pay the interest on the increased debt, thereby eliminating the impact of the deficit on spending. See Robert Barro, "Are Government Bonds Net Wealth?" Journal of Political Economy, vol. 82 (1974), pp. 1095-1117. For detailed arguments to the effect that such considerations only partially offset the demand impacts of deficits, see James Tobin and Willem Buiter, "Fiscal and Monetary Policies, Capital Formation, and Economic Activity," in George M. Von Furstenberg (ed.), The Government and Capital Formation (Ballinger, 1980, pp. 73-151). To the extent that consumers do not treat government bonds as postponed taxes, the upward movements in interest rates caused by increases in the deficit may be even stronger, however. This is because increases in private wealth (government bonds) may strengthen the demand for money, putting further upward pressure on interest rates. See Alan Blinder and Robert M. Solow, "Does Fiscal Policy Matter?" Journal of Public Economics (2), (1973), pp. 319-37.

9/ A different line of argument with similar conclusions is that increases in government borrowing may raise private investment by reducing interest rates on corporate bonds, even though rates on government bonds go up. This may occur if investors do not regard government and private bonds as substitutes, but the evidence is not strong. See Benjamin Friedman, "Crowding Out or Crowding In? Economic Consequences of Financing Government Deficits," Brookings Papers on Economic Activity, 3 (1978), pp. 593-654.

Figure 22.

Share of U.S. Public Debt Held by Foreigners



SOURCE: U.S. Office of Management and Budget.

investment, the negative impact of the deficits on investment may be partially or entirely offset by the tax incentive.

"Self Financing" Aspects of Deficits. Policy-induced deficits that occur in the presence of unemployed resources may stimulate aggregate production and income by an amount exceeding the deficit increase because of the multiplier process. The newly-generated income in turn results in some new saving, which helps finance government and private-sector borrowing, and also generates new tax revenue that offsets some of the initial increase in the deficit.

The Role of Inflows of Foreign Capital. One consequence of the interdependence of the world economy is that financial capital moves relatively freely from country to country in search of high interest returns. The United States is especially attractive to overseas investors because it is considered a safe environment for investment. As a result, significant capital inflows to the United States often occur when U.S. interest rates rise relative to those in other countries. Such inflows not only limit the rise in interest rates in the United States, but also, of course, help finance U.S. government and private-sector spending. The potential significance of these inflows of funds is illustrated in Figure 22, which shows that foreign holdings of Treasury securities currently amount to almost a fifth of total outstanding federal debt. Because of the behavior of exports and interest rates in other countries, however, few observers expect inflows of foreign capital to prevent projected budget deficits from drawing heavily on domestic savings. 10/

What Use Does Government Make of Borrowed Funds?

When government deficits cause interest rates to rise and thereby reduce private investment, the impact on productivity growth cannot be judged easily without knowing what use the government makes of the funds it borrows. Some government expenditures, such as those on education, medical care, airports and highways, research and development, and worker training programs represent public-sector investments that themselves may contribute to the growth of productivity in the private economy. If the federal budget is put on an accounting basis that differentiates investment from other types of spending, as is conventional in private firms and the governments of many other countries, the deficit for many past years is vastly reduced. 11/ Since some investment-type spending programs have recently been cut, however, it is unlikely that these factors will mitigate the productivity impacts of the deficit over the next few years.

How Do State and Local Government Budgets React?

Ultimately what matters for the economy is the behavior of the deficits of all governments taken together, rather than the deficit of the federal government alone. Thus, policy-induced changes in the federal deficit may have little or no impact on interest rates or other economic variables if they induce offsetting changes in state and local budgets. If the federal deficit is reduced, for example, by transferring spending programs to other levels of government and reducing their net surplus, little if any improvement in interest rates or other economic conditions can be expected.

10/ See, for example Henry Wallich, "The Federal Reserve and Interest Rates," remarks delivered at the 1981 annual meeting of the American Economic Association, Washington, D.C., December 28, 1981.

11/ See Joseph Scherer, "Is the Federal Budget Balanced?" *Challenge* (September/October 1979) pp. 41-43.

Proposals to Reduce the Investment Impact of Deficits

While each of the factors described above may at times help mitigate the harmful effects of deficits, their effects taken together clearly seem insufficient to prevent the deficits that are projected during the next several years from having a major detrimental impact on investment and productivity growth.

Professor James Tobin and others have proposed shifting the "mix" of macroeconomic policy--tightening the budget while at the same time using easier monetary policy to reduce real interest rates. Such an approach might result in no net stimulus to total output, but would instead shift the composition of output away from consumption and toward investment.

Professor Martin Feldstein, on the other hand, would follow a tight monetary policy to slow inflation but offset the increased real interest rates through tax benefits for business investment. 12/

Although both the Feldstein and Tobin approaches are aimed at increasing investment spending, the compositional changes in total spending and output would probably differ. If the deficit were reduced and real interest rates scaled back through an easier monetary policy, as in Tobin's plan, the housing and automobile industries would gain relief from their present depressed state; moreover, the pattern of business investment might differ from that under the Feldstein approach, although exactly what these differences might be is hard to predict. The inflation rate might ultimately be lower under the Feldstein approach since long-run rates of money growth would be lower, but both approaches appear to be consistent with significant reductions in inflation from present levels.

12/ The budget deficit would increase under this proposal but by no means as much as now projected. The multiple budget initiatives taken by the Congress last summer, aside from the tax benefits for business, are not necessarily consistent with the Feldstein proposal.

BUDGET MEASURES TO REDUCE THE DEFICIT

The prospects of large budget deficits during the fiscal 1982-1983 period, with no approach to the goal of a balanced budget in fiscal year 1984, have intensified the search for budget measures that would further reduce spending or restore some of the large revenue losses resulting from the Economic Recovery Tax Act of 1981. This concluding section briefly discusses the economic implications of several tax and spending options. [13]

Six tax policy and other revenue-enhancing options are examined: (1) postponing or rescinding the personal tax rate reductions now scheduled for mid-1983; (2) broadening the tax base by eliminating or reducing various tax expenditures; (3) raising additional revenues through narrowly-focused excise taxes or by introducing a broad-based national sales, value-added, or expenditure tax; (4) imposing a windfall profits tax on revenues stemming from the decontrol of natural gas prices; (5) levying a tariff on imported oil; and (6) charging market prices for the goods and services provided by the federal government. In addition to these revenue-increasing options, four outlay-reduction options are considered: (1) reducing private-sector subsidies for export promotion, agriculture, energy, and transportation; (2) reducing grants to state and local governments; (3) reducing defense spending through the adoption of alternative weapon systems; and (4) reducing individual benefit levels in Social Security, other retirement programs, Medicare, and food stamps.

Postponing or Rescinding the Personal Tax Rate Reductions. The largest source of revenue loss from the Economic Recovery Tax Act of 1981 is the 23 percent across-the-board reduction in individual income tax rates, phased in over a 33-month period. [14] One way to reduce the deficit would be to delay or rescind the adjustments in tax rates now scheduled for mid-1983.

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[13] A comprehensive analysis of budget options designed to reduce the deficit is presented in: Congressional Budget Office, Reducing the Federal Deficit: Strategies and Options (February 1982).

[14] The CBO estimates that these rate reductions will result in static revenue losses of $25.3 billion in fiscal year 1982, $65.1 billion in fiscal year 1983, and $102.3 billion in fiscal year 1984.

Postponement or elimination of the 1983 reductions in personal tax rates would lower after-tax income growth and dampen the growth of consumer spending. Slower growth of aggregate demand would likely have some retarding effect on the rate of inflation, but it would probably also raise the level of unemployment which, in turn, would slow the growth of revenues and raise the growth of federal spending for income-support programs. These secondary budget effects would offset some of the deficit-reducing effects caused by the delay or elimination of the 1983 tax rate reductions.

To the extent that personal savings and labor supply are responsive to changes in marginal tax rates, this option would have some adverse supply-side effects. However, if the reduction in the federal deficit more than offset the reductions in private savings, the net saving rate would rise, providing additional funds for capital formation--a major consideration from the point of view of long-run productivity growth.

Reducing Tax Expenditures. Congress could enlarge the effective tax base by eliminating or reducing some "tax expenditures." 15/ In general, tax expenditures increase the flow of resources to particular activities at the expense of others, an outcome that could reduce productivity by distorting the allocation of resources For example, tax expenditures for owner-occupied housing have made this form of investment relatively attractive (on an after-tax basis), which has tended to draw resources away from other types of investment. Likewise, the deductibility of interest

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15/ Tax expenditures are the revenue losses resulting from the perferential tax treatment of various sources and uses of income, designed to allocate resources to specific activities or to reduce hardships for specific groups. The tax expenditures producing the largest revenue losses in 1981 were the deductions for mortgage interest and property taxes on owner-occupied housing, the deduction for non-business state and local taxes; the 60 percent exclusion for capital gains; the exclusion of employer contributions for medical insurance premiums and medical care: the exclusions for Social Security benefits and for pension contributions and earnings: and the investment tax credit for business equipment. For a discussion of the concept and revenue impacts of tax expenditures, see Congressional Budget Office, Tax Expenditures: Current Issues and Five-Year Budget Projections for Fiscal Years 1982-1986 (September 1981).

on consumer credit tends to encourage consumption relative to saving.

Some types of tax expenditures, however, such as those that increase the after-tax return on personal saving and business investment, may encourage economic growth. Reducing these tax preferences would tend to dampen incentives to save and invest, although the sensitivity of personal saving and capital formation to changes in after-tax rates of return remains an unresolved empirical issue.

Consumption-Based Taxes. Additional revenues could be raised through narrowly-focused or broad-based forms of consumption taxes. A major argument in favor of consumption-based taxes is that they are thought to increase the relative attractiveness of saving.

A narrowly-focused consumption tax (or excise tax) is one that applies to a specific commodity. In some cases, reduced consumption of the taxed commodity may be deemed desirable from a social viewpoint. The major U.S. excise taxes have been unit taxes on tobacco, alcoholic beverages, and gasoline, and ad valorem taxes on some items such as telephone service. Since unit taxes on cigarettes, alcoholic beverages, and gasoline have not been increased since 1951, these taxes have declined significantly as a proportion of the sales price.

In contrast to narrowly-focused commodity taxes that primarily affect the relative prices of specific goods and services, broad-based consumption taxes primarily affect the relative attractiveness of saving and consumption. Thus they have more significant macroeconomic implications for growth and productivity.

A broad-based consumption tax can be implemented in various ways, including a national sales tax or a value-added tax. The major difference between these two types of tax is that the former is collected at the retail level, while the latter is collected at each stage of production. An argument against such taxes is that they are considered regressive since they impose a disproportionate burden on those with relatively little discretionary income. Also, these taxes directly increase the price of goods and services, and thus would temporarily raise the rate of inflation as prices adjusted from one level to another.

To reduce the regressive nature of a consumption tax, some analysts have proposed a progressive-rate expenditure tax. A major difference between an expenditure tax and a sales or value-added tax is that a tax on expenditures could be collected in the same way that income taxes are now collected. A taxpayer would report income (from all sources) as well as net saving. The difference would be the tax base to which the rate schedule would be applied. The rate structure could be characterized by any degree of progressivity, a feature impractical in the case of a national sales or value-added tax. Finally, an expenditure tax would not have direct price-level effects.

A Windfall Profits Tax on Decontrolled Natural Gas. Another potential source of revenue would be a tax on the windfall profits resulting from the decontrol of natural gas prices. The major difference between such a tax and the current windfall profits tax on oil is that part of the gas tax may be shifted forward to gas consumers through an increase in the price of gas above its decontrolled level. In the case of oil, the windfall profits tax could not be shifted because the price of oil is effectively determined by foreign producers. In contrast, domestic gas producers do not face such a price constraint, except to the extent that consumers can switch from gas to oil, coal, or other substitutes.

A Tariff on Oil Imports. As in the case of a windfall profits tax on decontrolled natural gas, a tariff on imported oil would have a direct impact on prices. However, in contrast to other energy taxes, at least part of the tax would be borne by foreign producers. Initially, the tariff would raise the price of imported oil to U.S. consumers; but eventually domestically-produced oil prices would rise to equal the after-tariff price of imported oil. The increase in the price of oil in the United States would reduce the quantity of oil demanded, which in turn would lead foreign producers to lower their prices or restrict output by more than otherwise. As a result, foreign producers would bear some of the burden of the oil tariff.

Charging Market Prices or Full Cost for Goods and Services Provided by the Federal Government

The federal government provides numerous products and services to individuals and businesses at lower than market prices and often well below costs. In many instances, the subsidies implicit in such pricing policies cannot be justified on cost-benefit grounds. As a result, the allocation of resources is distorted. Accordingly, a case can be made for substantially increasing user fees for highways, airways, and inland waterways; for extending the user charge principle to federal deep-draft navigation activities; for introducing user charges for many of the services provided by the Department of Commerce, the Federal Reserve System, the Federal Communications Commission, and the Securities and Exchange Commission, among others; for increasing entrance fees to national parks; for charging the utility industry the full cost of uranium enrichment and nuclear waste disposal; and for imposing a new fee on oil imports to fund the Strategic Petroleum Reserve.

Reduce Private-Sector Subsidies for Export Promotion, Agriculture, Energy, and Transportation

Currently, the federal government subsidizes a great deal of private-sector activity either in the form of grants, or in the form of loans at below-market interest rates. Again, many of these subsidies cannot be justified on cost-benefit grounds. This may be true of export promotion programs such as DISC and the Export-Import Bank; agriculture programs such as tobacco and wool subsidies, and dairy and other commodity price supports; loan programs for the Rural Electrification Administration and the Farmers Home Administration; energy development subsidies in the form of tax expenditures, loans and loan guarantees, and direct expenditures; and subsidies for Amtrak and for maritime construction and operating programs.

Reduce Grants to State and Local Governments

State and local grants could be reduced using two general approaches. First, reduce grants to the least-needy governments, focusing assistance on those jurisdictions least able to provide for themselves. Second, reduce federal aid to all state and local government units by either pruning ineffective programs or by consolidating existing categorical grants into less-restricted block grants.

Other opportunities exist for further targeting federal grants to state and local governments. For example, Community Development Block Grants, Urban Mass Transit Grants, or Urban Development Action Grants could be reduced to jurisdictions with greater fiscal capabilities. The same is true of federal fiscal assistance provided under the General Revenue Sharing program. Reductions in grants to state and local governments can contribute to reduced federal deficits, but will not reduce the total government deficit unless state and local governments respond by either increasing their taxes or cutting their spending.

Reduce Defense Spending Through the Adoption of Alternative Weapon Systems

One budget strategy would be to reduce the pace of modernization of strategic forces. For example, the Congress could leapfrog the B-1 Bomber and proceed directly to an Advanced Technology Bomber (ATB) while increasing B-52 alert rates. The Congress could also modify the tanker re-engining program; it could cut back procurement of nuclear attack submarines, substituting in their stead new-generation diesel-electric submarines; and it could limit M1 tank procurement and supplement it with M60s. Finally, the Congress could seek additional economies in defense pay and support costs.

Reduce Individual Benefit Levels

Much of the growth in the federal budget in recent years has taken place in income security and health programs, due to legislated increases in benefit levels during the early 1970s, automatic indexing of cash benefits to the CPI, and rapidly rising health care costs. Benefit levels could be reduced across-the-board or targeted to the least needy individuals. One example of an across-the-board reduction that could be implemented quickly would be to reduce the cost-of-living adjustment for Social Security below current levels. Benefits under Medicare could also be cut across-the-board by raising the premium for part B (physician) coverage or by increasing coinsurance for hospital services. Moreover, ancillary Social Security benefits could be targeted by making benefit levels dependent on income. Premium or coinsurance increases under Medicare could also be targeted and scaled on the basis of each recipient's income.

APPENDIXES

APPENDIX A. EFFECTIVE TAX RATES AND THE IMPACT OF THE ACCELERATED COST RECOVERY SYSTEM BY ASSET TYPE

The most efficient (productive) composition of the capital stock is attained when effective tax rates are the same on each type of investment. Even though a firm may be subject to one statutory tax rate on the income generated by additional investments, the effective tax rate on a particular asset can differ from the statutory rate because of the timing of depreciation deductions, the level of investment tax credits, and the impact of inflation on replacement costs. When the federal tax treatment of capital costs results in effective tax rates which differ by asset type, the capital stock is not allocated to its most productive uses.

Under prior law, effective tax rates on short-lived assets were lower than those on long-lived assets in most cases (Table A-1), and equipment was favored over structures. Moreover, the (imputed) income from some nonbusiness assets, such as consumer durables and owner-occupied housing, was not subject to tax.

Under the Accelerated Cost Recovery System (ACRS), the relative differences among effective tax rates on different types of business assets are increased; 1/ and, thus, ACRS tends to foster an even less efficient composition of business capital, again with equipment receiving favorable treatment relative to structures. On the other hand, ACRS results in efficiency gains by lowering effective tax rates on business assets relative to the (zero) effective tax rates on untaxed nonbusiness assets. These gains in efficiency (output) may more than offset the efficiency losses due to an increased distortion of the business capital stock.

1/ Based on the assumptions underlying the calculations presented in the table, the effective tax rates on short-lived equipment investments become negative. This result implies that the tax benefits of ACRS for equipment are greater than the benefits of immediate expensing.

TABLE A-1. EFFECTIVE TAX/SUBSIDY RATES: SELECTED ASSETS, PRIOR LAW AND THE NEW ACCELERATED COST RECOVERY SYSTEM (AFTER PHASE-IN)

Asset Type	Prior Law		ACRS	
	6 Percent Inflation	12 Percent Inflation	6 Percent Inflation	12 Percent Inflation
Cars	.15	.36	-.65	-.08
Trucks, Buses, and Trailers	.09	.42	-1.08	-.09
Construction Equipment	.06	.34	-.60	-.07
General Industrial Equipment	.16	.36	-.40	-.05
Industrial Steam Equipment	.31	.44	-.27	-.04
Utility Power Plants	.27	.36	.15	.28
Industrial Buildings	.49	.53	.41	.48
Commercial Buildings	.48	.51	.36	.43
Apartment Buildings	.37	.42	.31	.37
Apartment Buildings (low income)	.37	.42	.30	.35

NOTE: The effect of prior law and ACRS on effective tax rates is derived from a complex formula, and the results may not be intuitive. The formula for the effective tax rate is $(r^* - r)/r^*$, where r^* is the real pre-tax return and r is the real after-tax return. r^* is in turn determined by the formula:

$$r^* = \frac{(r + d)(1-uz - k)}{(1 - u)} - d$$

where d is the economic depreciation rate, u is the statutory tax rate, z is the present value of depreciation deductions (discounted at the rate $r + p$, where p is the inflation rate, and k is the per-dollar value of the investment credit.

SOURCE: Effects of the Accelerated Cost Recovery System by Asset Types, Jane G. Gravelle, Congressional Research Service, August 31, 1981.

APPENDIX B. DO POLICY-INDUCED DEFICITS CAUSE INCREASES IN THE MONEY SUPPLY?

The apparent reaction of the Federal Reserve to changes in deficits and interest rates has varied over the recent past because of changes in the Fed's operational strategy. In general, increases in interest rates caused by policy-induced deficits or other factors might arouse concern on the part of the Federal Reserve for two reasons. First, changes in interest rates have impacts on the paper wealth of bond holders which the Fed might try to minimize; and second, changing interest rates affect investment, GNP, unemployment, and inflation, the so-called "ultimate targets" of monetary policy.

The Fed can control rising interest rates by buying Treasury bonds, but doing so causes bank reserves, and ultimately the money supply, to expand. Since expanding the money supply stimulates output and, in the longer run, prices, the Fed may prefer to allow interest rates to rise when the budget deficit increases if it is more concerned about possible impacts on prices than it is about the output effects caused by rises in interest rates. Indeed, since policy-induced increases in the deficit also stimulate output and prices, if the Fed believes that the fiscal actions result in too much stimulus to these economic variables it may _reduce_ the money supply in the face of policy-induced deficits, rather than increasing it, perhaps causing interest rates to rise even more. As an _a priori_ matter, then, it is not clear how the Fed will react to a discretionary increase in the deficit.

Recently, economists have used statistical methods to determine whether the observed practice of the Fed during the 1960's and 1970's was to expand the money supply when the deficit increased, other variables being equal. The widely-publicized results suggest that the answer is yes. 16/ The authors of the study conclude from their results that the Fed may act in the same way during the 1980's. If this interpretation is correct, it suggests that

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16/ Michael Hamburger and Burton Zwick, "Deficits, Money, and Inflation," _Journal of Monetary Economics_, Vol. 7, 1981, pp. 141-150.

policy-induced deficits may cause higher rates of inflation in the long run, not only by reducing investment and productivity growth, but by increasing money growth as well.

The validity of these statistical results as indicators of current and future Federal Reserve policy is undermined, however, by the fact that the Fed has announced, and apparently plans to hold to, a firm shift in its emphasis regarding the control of money and interest rates since the time when these statistical tests were made. On October 6, 1979, the Fed announced that it was relaxing its control of interest rates in order to control money growth more closely. Since then, interest rates have been more volatile than ever before, and in particular, have been permitted to reach record levels. While this shift in Fed behavior is too recent to be subjected to reliable statistical tests, experience with such methods suggests that these tests might well confirm that monetary policy behavior has changed. 17/ If so, the increased emphasis on controlling monetary growth at the expense of interest rates may mean that the Fed will no longer allow the money supply to increase in the face of large federal deficits. If this is true, the long-run inflationary impact of policy-induced deficits will be reduced. At present, however, few analysts are willing to predict with confidence how monetary policy and deficits will interact.

17/ The Fed has announced similar, though less sweeping, changes in its emphasis on controlling money as opposed to interest rates in the past. Statistical testing procedures like those just cited have shown that such announced changes in policy are often reflected in actual Fed practice. See Gary Stern and Paul DeRosa, "Monetary Control and the Federal Funds Rate," Journal of Monetary Economics, vol. 3, 1977, pp. 217-230.

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